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A Study of Interorganizational Negotiation of Transportation Service Contracts Using Shippers and Motor Carriers

Lloyd M. Rinehart
University of Tennessee, Knoxville

To the Graduate Council:

I am submitting herewith a dissertation written by Lloyd M. Rinehart entitled "A Study of Interorganizational Negotiation of Transportation Service Contracts Using Shippers and Motor Carriers." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Business Administration.

C. John Langley, Major Professor

We have read this dissertation and recommend its acceptance:

Ray Mundy, Ernest Cadotte, Ralph O'Brien

Accepted for the Council:
Dixie L. Thompson

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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A STUDY OF INTERORGANIZATIONAL NEGOTIATION OF TRANSPORTATION SERVICE CONTRACTS USING SHIPPERS AND MOTOR CARRIERS

A Dissertation

Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

Lloyd M. Rinehart

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ABSTRACT

Since deregulation of the motor carrier industry in 1980, shipper and motor carrier practitioners have gained greater interest in understanding the negotiation process necessary to achieve contracts for motor carrier service. In addition, the marketing discipline has recently shown interest in studying the applications of negotiation activities in exchange environments. This study looks at the elements of the negotiation process used by motor carriers and shippers to reach contractual agreements for transportation service. This study assesses the application of the process in different situations. Data was collected in two phases using personal interviews to collect data from case study participants, and second, through a mail survey which collected data from a national sample of shipper and motor carrier negotiators. The data collected in the mail survey was analyzed to assess group differences using discriminant analysis, and to test the process conceptualization presented as a basis for the study. The process tests were conducted using forms of multiple regression analysis and correlation analysis.

The results indicate differences between shipper groups, motor carrier groups, and between shipper and motor carriers on all of the areas of the conceptual model tested. Assessment of the elements of the negotiation

process indicate the importance of preparation prior to bargaining activities, and the potential differences which can arise in the outcome from different bargaining approaches to reach contract agreement. The information provided from this study can be beneficial to both practitioners and academics that have an interest in either the theoretical foundations which were developed, or the application of the information for negotiation activities.

TABLE OF CONTENTS

SECTION PAGE

LIST OF TABLES

TABLE PAGE

TABLE PAGE

TABLE PAGE

LIST OF FIGURES

FIGURE PAGE

CHAPTER I

INTRODUCTION AND CONCEPTUAL FOUNDATION

Organizations providing and using transportation service today find themselves interacting in a new competitive exchange environment. This environment, which places greater emphasis on market controls, is substantially different from the environment to which they had previously been exposed. The difference in the interactive environment involves the ability and encouragement (through federal regulatory reform) of shippers and carriers to negotiate longterm contracts for transportation rates and service. This environmental change provides the incentive to study and attempt to understand how organizations approach the process of negotiating transportation service contracts.

Development of a conceptual foundation for understanding exchange interaction and negotiation, such as that between buyers and sellers in industrial markets, is limited in the marketing literature. The apparent reason for the limited interest in this area by academic researchers is due to the complexity of studying the behavior of two parties which are interacting in an exchange environment (Olshavski, 1976).

In addition to the limited development of a theory of exchange interactions, there is a void in the current conceptualization of the processes used to resolve

interorganizational conflict situations. These situations could include those which require negotiation between shippers and carriers. Conceptual development in this part of the marketing literature has focused on the use of interorganizational management techniques to control conflict in the distribution channel. One recent conceptualization integrated the concepts of power and dependence as variables which influence the conflict environment between distribution channel members (Gaski, 1984).

A related theory by Cadotte and Stern (1979) introduces the concepts of interdependence and conflict potential as variables which influence interorganizational management in distribution channels. These conceptualizations provide a foundation for explaining conflict situations, but ignore the distinction between managing conflict and resolving conflict between channel participants. It becomes necessary to understand the processes used to resolve the conflict in the distribution channel. Negotiation is one process which can be used to resolve conflict and influence the performance of the channel.

I. PRACTICAL NEED

Interorganizational management concepts can also be applied to the relationships which exist between the channel members and the facilitating agents of the channel. These relationships have been substantially influenced by the

changed regulatory policy which occurred in the motor carrier and railroad industries. The Staggers Act of 1980 specifically allows rail carriers to enter into longterm service contracts with shippers (Public Law 96-448, 1980). Before 1980 railroads were classified as common carriers. This classification restricted them from establishing longterm contractual relationships with shippers. In addition, this restriction was intended to insure that railroads were able to meet their common carrier obligation, which was to serve all potential customers. The change in government policy forces rail carriers to learn how to negotiate service contracts with shippers.

Motor carriers have been granted similar authority by the federal government. This authority came through the Motor Carrier Act of 1980 (Public Law 96-296, 1980). The intent of this act is to give motor carriers greater flexibility of operations and place motor carrier competition more directly under the control of the market. The Motor Carrier Act accomplished this by relaxing entry restriction to the industry. This created an increase in the number of motor carriers operating under contract authority from three major groups. The first group included the participants entering the contract motor carrier business for the first time. Another group contained private carriers which were allowed to solicit for business through the outcome of the "Toto Case". The final group

included common carriers which have expanded their authority to include contract carrier operations in addition to their common carrier status. This type of operating authority is called "dual-operating authority". Authorization of a certificate of public convenience and necessity, for contract carriage, places many motor carriers and rail carriers under similar negotiating circumstances, when considering the limited experience which they previously had negotiating contracts with shippers for transportation service.

The changes in the regulatory environment of carriers demonstrates the federal government's recognition of the change in competitive environmental conditions for carriers of both modes. The major change is the gradual transition from horizontal competition (competition between carriers from the same mode), to intertype competition (competition between modes), (Rosenbloom, 1983). This competitive change provides incentive for carriers of both modes to actively solicit service contracts with shippers, while providing for themselves, greater operating stability and improvement of their strategic planning.

A third type of competition influences the interactive environment between shippers and carriers. That environment is the competition between the shippers which comprise the distribution channel, and use the services provided by carriers. The shipper also has substantial interest in

negotiating service contracts with carriers when considering that transportation charges average between 29 and 44 percent of their total distribution costs (Johnson and Wood, 1977). The difference in cost of transportation service for the shipper can provide the necessary differential advantage for influence and control of the distribution channel, as well as to increase the overall efficiency of the logistics channel system (Lambert and Stock, 1982).

A study of the contract negotiation process between shippers and motor carriers can provide substantial benefit for organizations which conduct negotiations. This type of study can also contribute to the theoretical development of negotiation as a process, which can be used to solve conflict between participants in the logistics channel. In addition this environment provides a unique opportunity for this type of study when considering the previous operating conditions of many motor carriers.

II. STATEMENT OF THE PROBLEM

Changes in the competitive environment are forcing both shippers and motor carriers to enter into contracts for transportation service. This change in the environment has had substantial influence on the internal operating activities of the organizations involved. Consideration of the organizations and the related negotiation activities raises the following five questions which this dissertation will address.

1. What activities and variables influence the outcome of interactive contract negotiations between shippers and motor carriers involved in the exchange process?

2. Do motor carriers possessing different operating characteristics approach the contract negotiation process in the same way?

3. Do shippers possessing different operating characteristics approach the contract negotiation process in the same way?

4. Do motor carriers and shippers approach the contract negotiation process differently, when considering their historical exposures to the interactive negotiation process?

5. What are the relationships between the elements of the conceptualized negotiation process?

Two primary areas of interest are addressed through these research questions. The first involves the variables which comprise the negotiation process for shipper-motor carrier contract negotiations. Recognition of the variables which are most appropriate for the model will contribute to the body of knowledge of interorganizational contract negotiations between participants in the distribution channel.

A second interest area addresses the implications of

interorganizational contract negotiations on the different classifications of motor carriers, and different sizes of shippers representing different industries. The inclusion of operating and organizational variables provides the opportunity to study the implications of the regulatory reform movement on the activities of shippers and motor carriers.

III. OBJECTIVES OF THE DISSERTATION

The major purpose of this dissertation is to make a contribution to the current body of thought in the area of interorganizational negotiations. Since there has been little conceptual development of negotiation as a process for exchange relationships in marketing, it is necessary for this initial contribution to define interorganizational negotiation as a process, and conceptualize its basic concept areas (Bartels, 1970). Accomplishment of this objective requires the consideration of concepts which are related to the negotiation process, the development of a conceptual model of the process, and the adaptation of an appropriate research design which can be used to provide an empirical test for the model. These three considerations provide the basis for the following specific research objectives:

1. This dissertation will integrate and synthesize concepts from organizational behavior, political

science, sociology, marketing, and logistics into a comprehensive conceptualization of the contract negotiation process between shippers and motor carriers.

2. A conceptual dyadic model will be introduced, which represents the interorganizational contract negotiation process between shippers and motor carriers based on the current literature.

3. The model will be assessed using the perceptions of shippers and motor carriers at the point of completion of the process.

4. The model will be tested to establish the variables which are most appropriate for different negotiation environments.

5. A guideline for the evaluation of interorganizational contract negotiations will be established.

6. The results will provide direction for future research of interorganizational negotiation as a process using dyads in the logistics channel.

These objectives provide the direction necessary for exploratory and descriptive research of the negotiation process between shippers and motor carriers. The remainder of this chapter will introduce the proposed research

methods, the scope of the study, and the contribution that the study will make to theoretical development and the practice of interorganizational negotiation between participants in the logistics channel.

IV. RESEARCH METHODOLOGY

Since the negotiation environment is comprised of two organizations, it becomes necessary to study the negotiation process under a research setting which allows the mutual consideration of both parties. This approach, commonly referred to as a dyadic approach, uses the information collected from both parties in the dyad as the unit of analysis. The research methodology will address the foundations for conceptual development, and provide support for the appropriate application of the research design.

Conceptual Development

Development of the conceptual foundations have occurred in two stages. The first stage included a detailed analysis of the literature bases which address negotiation as a process. The literature bases were used to develope the conceptual model of the interorganizational contract negotiation process. To evaluate the validity of the model at this stage, discussions were conducted with representatives of shippers and motor carriers about their perceptions of negotiation activities. An academic which had considerable interest in negotiation activities was also

consulted to test the theorectical contributions of the study and verify the methodological approaches being considered to test the model.

Research Design

The research design addresses the negotiation characteristics of different classifications of shippers and motor carriers. Shippers will be classified by the type of industry which they represent and their relative size. Motor carriers will also be classified by their size, their commodity classification and their experience at negotiating contracts with shippers. These classification catagories can be used to assess the relative differences in shipper and carrier approaches to the negotiation process.

The first sample comprised case studies of shippers and motor carriers which were readily accessable in the immediate area around Knoxville, Tennessee. The data collected from these case studies was used to substantiate the conceptual model and determine the appropriate variables to represent each of its constructs. The second study will be conducted, using a sample representing the perceptions of shippers and motor carriers from a national population. These perceptions will be based on the most recent contract which they have negotiatied with shippers or motor carriers. Half of this sample will be shippers from varying industries and the other half will be motor carriers. The organizations will be selected from the membership listing

of the Council of Logistics Management, and the motor carrier listing in Trinc's Blue Book of the Trucking Industry, (1984).

The data collected was analyzed using several appropriate statistical techniques. The quality of the measures were assessed using correlation coefficients. Each group hypothesis was tested using discriminant analysis to establish similarities and differences between groups classifications of shippers and motor carriers. Use of stepwise discriminant analysis was also used to help determine the appropriate model variables for each grouping of participants.

In addition, process relationships were tested to determine the interactive relationships between the general construct areas. These tests used regression and correlation analysis techniques. In total, the results have allowed the researcher to more fully understand the process of transportation contract negotiations, and determine areas of the process which differentiate between the participants.

V. SCOPE OF THE STUDY

While this study has potential for substantial contributions to the development of a theory of interorganizational contract negotiations in the logistics channel, the research environment has several characteristics which must be noted as limitations to the

general applicability of the results. The first limitation concerns the carriers which were chosen to participate in the study. This study only addresses the contract negotiation issues for motor carriers. Therefore the results of the study can only be generalizable to motor carrier contract negotiations and not to other modes which negotiate transportation service contracts.

Second, this study does not limit shipper participants to specific industries. If this restriction were imposed, there might be an increase in the validity of the shipper characteristics of the model.

Third, selection of the participants in the case studies were based on their willingness to discuss the negotiation activities and strategies which they had used in previous contract negotiations.

Fourth, the cost of collecting the data in the case studies is a major consideration in the geographic location of the case study participants, therefore the interviews were conducted in the Knoxville, Tennessee area.

Fifth, the second study did not use dyads for data collection purposes. This may have increased the participation level of the respondents, since they will not have to divulge specific information of the organization to which they are referring in the study. In addition, use of dyads would not have significantly contributed to the assessment of group differences over the environmental and

process variables, as proposed in this study.

The last limitation involves the relationship between the model being tested and the data collection methodology. The recommended methodology collected data at one point in time for a dynamic model. This means that participants were required to respond to items pertaining to elements of the negotiation process which may have taken place several weeks or months prior to the administration of the questionnaire.

While these limitations are major consideration factors, it is felt that the research has made a contribution to the understanding and practice of transportation contract negotiation, and provides a point from which future research may be initiated.

VI. CONCEPTUAL IMPORTANCE

The quality of a research project can be measured by the contribution that is made to the problem of interest. This dissertation has made a contribution to the current literature base pertaining to interorganizational contract negotiation as a process in the logistics channel. The contribution has been measured in three areas.

The first area is the conceptual development, which helps to contribute to a theory of contract negotiations in transportation and logistics. This contribution is most noticeable through the development of a behavioral model of the interorganizational negotiation environment between shippers and motor carriers. This model makes a

contribution by integrating behavioral process theory into theory development of transportation and logistics as called for in the literature (Mentzer and Schuster, 1982). Specifically, this approach integrates new concepts from other disciplines into the development of mode and carrier selection models. Last, this model introduces interorganizational negotiation as another decision variable which is pertinent to the decision making process in the establishment of customer service standards.

Marketing theory can also benefit from research of the interorganizational negotiation process. The current theory of the sales process lacks the study of negotiation as part of interorganizational exchange. This model integrates concepts from the sales process literature and the organizational buyer behavior and purchasing literature in an interactive framework, which recognizes the dyadic nature of the negotiation process. The theoretical development can help contribute to more general applications of negotiations through marketing theory.

The last contribution is the potential understanding, by shippers and motor carriers, of how the negotiation process can be applied in logistics channel relationships. This can provide managers of motor carriers and shippers with concepts of the contract negotiation process. These concepts can be used to increase the overall efficiency of the logistics channel by achieving a contractual

relationship which is beneficial to both parties.

CHAPTER II

CONCEPTUAL FOUNDATIONS FROM THE CURRENT LITERATURE

The contract negotiation environment between shippers and motor carriers is a special exchange environment. Consideration of the current literature sources which can provide a conceptual foundation for this type of study will come from many different disciplines. Exchange negotiation, implicitly refers to the element of interaction between the buyer and seller of a product or service when it is perceived by both parties that the terms of the transaction require some form of modification. Figure 1 is a model which represents the relationship between the related literature bases.

Inclusion of the marketing literature which addresses exchange decisions is a necessary initiating point. Two separate literature bases provide this foundation. The first is the organizational buyer behavior research which addresses the processes and variables of importance to the buying decisions for organizations. Second, the sales literature introduces the conceptual foundations used by organizations selling products and services. A third literature base evolves as a subset of the previous two. These conceptualizations address the element of interaction between buyers and sellers during the exchange process.

As organizations interact in the market it is necessary

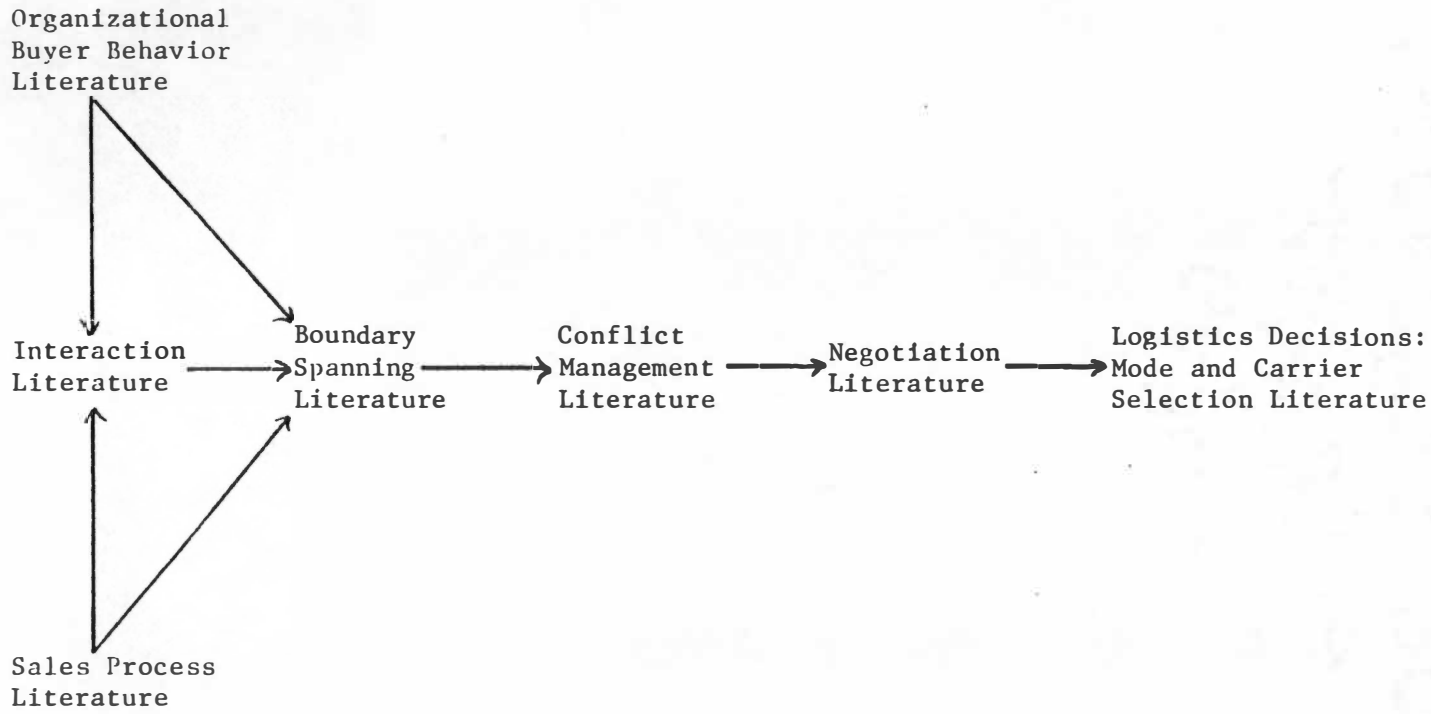


Figure 1. A Conceptual Structure for Studying Interorganizational Exchange Negotiation.

to consider the individuals which perform the actual negotiations. Consideration of the organizational boundary spanning literature will help establish the foundations for understanding the relationships which exist between the negotiators, and for those relationships which exist between the negotiators and the companies which they represent.

Integration of negotiation into the exchange relationships is established in the study of conflict management, which can be found in the marketing literature as well as the organizational behavior literature. Recognition of the elements of conflict in the distribution channel and those approaches which can be used to resolve conflict are necessary to consider as a foundation for the study of exchange negotiation.

A sixth base for the conceptual foundation is the literature covering other forms of negotiation between organizations. These modeling procedures have been used to establish the variables of importance in predicting the outcome of negotiations between countries in the political arena (political science literature), and between organizations such as industry and labor (organizational behavior literature). Previous approaches to modeling negotiation have not considered the exchange environment between distribution channel members and or between distribution channel members and the facilitating agents.

The last literature base which is important for this

specific study is the research done on the decision processes of selecting modes and carriers in the logistics channel. This literature base will provide a foundation of variables which are considered important elements of a transportation service contract. As with most of the other literature bases, the mode and carrier selection models have only considered the decisions from the perspective of the shipper.

The integration of concepts from these sources of literature will be used to develop a conceptualization of the negotiation process between shippers and motor carriers.

I. LITERATURE EVALUATION CRITERIA

To effectively evaluate the literature, it is necessary to develop criteria from which to position each contribution. The criteria most appropriate for evaluation of previous work done in areas related to the negotiation process can be divided into four groups. The first consideration is the type of conceptualization used by the author. Previous studies address exchange from two perspectives (Neslin and Greenhalgh, 1983). One is the consideration of a process which leads to an outcome from the exchange. Another, is the consideration of the outcome of the negotiation, and the general variables which are used for its accomplishment.

A second criterion area includes consideration of the

negotiation environment. The literature has been classified into three basic groups. The first group consists of the general applications of the process which do not distinguish between negotiation interactions within organizations or between organizations. A second group, called intraorganizational negotiations, considers negotiations which have been used to resolve differences within one organization. Finally, some uses of negotiation in the literature have considered negotiation between organizations, such as those used in labor negotiations, distribution channel negotiations, and international negotiations. This approach is called interorganizational negotiation.

Consideration of the variables of negotiation is the third criteria area. The variables can be classified in five general groups. Consideration must include the environmental variables which influence negotiation (group 1). This influence can range from the personal characteristics of the participants, to the organizational influences, and finally consideration of the variables over which the participants have no control. The environmental factors will influence the relative position of the participants to the negotiation. These variables create the potential for the interaction between the parties (group 2). In addition to the environmental and position variables there must be consideration of the actions or behavior of

the participants. These actions may include the extent and type of preparation by the participants (group 3), the actual interaction between the parties (group 4), and the outcome of the interaction between the parties (group 5). These variable groups have been conceptualized as a process which occurs as the information is used to achieve outcomes from the negotiations. This conceptualization is represented in Figure 2.

The last criteria grouping involves the type of conceptualization used in the literature and the empirical support established for the conceptualization introduced. Bonoma, Bagozzi, and Zaltman (1978) have classified the current conceptualizations for interorganizational interactions into two groups. The first is the unit perspective, which assesses the activities of interaction from the perspective of one party. Conceptual development has also evolved using a dyadic perspective (group 2). This perspective considers both parties at the same time in the negotiation environment. The third category in this group of criteria is the inclusion of empirical data to support the conceptualization introduced. Consideration of the empirical support for the conceptualization will provide a more accurate assessment of the current body of knowledge of negotiation interaction.

Use of these criteria help to establish a direction for the conceptualization of negotiation as a process and allows

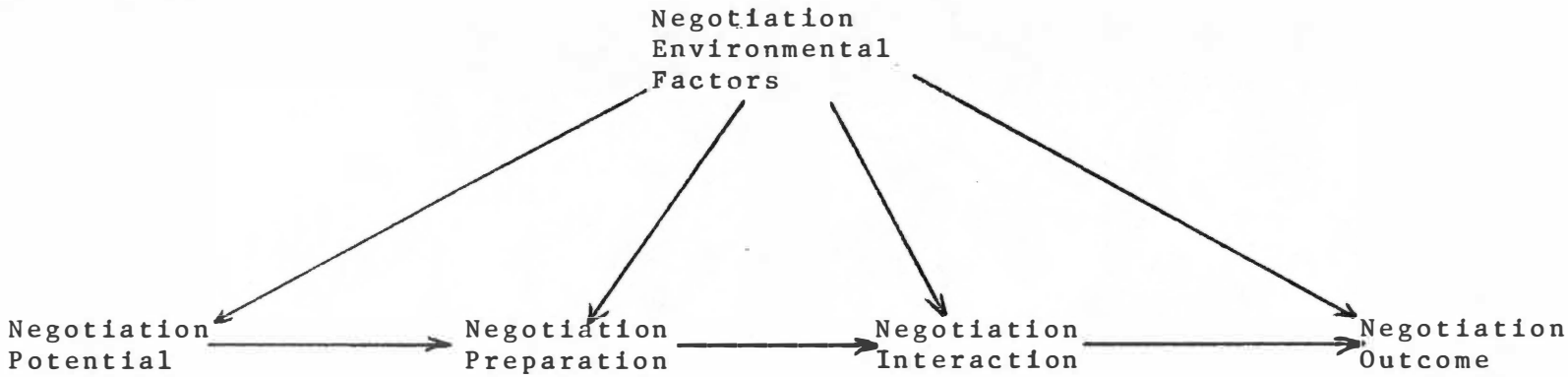


Figure 2. A General Process of Negotiation.

for efficient categorization of the current literature. Table I is an assessment of the literature bases which have been introduced using these criteria.

II. FOUNDATIONS FROM ORGANIZATIONAL BUYER BEHAVIOR

The study of organizational buyer behavior has traditionally focused on those variables which influence the decisions of organizational buyers. Primary emphasis has focused on the variables which influence the buying organization, both internally and externally. Two major approaches have been used to conceptualize the relationship between these variables. The first approach addresses the environments which influence the activities of buyers. A second approach is to model the decision process which buyers use to make a purchase decision.

Environmental Approaches

One of the first environmental conceptualizations of organizational buying behavior was developed by Webster and Wind (1972). The premise of this model is that the purchase decisions made by organizational buyers are influenced by other environments both internal and external to the organization (Figure 3). These environments are introduced at four levels. The broadest level of influence are the environments which are external to the organization. These consist of the physical, technological, economic, political, legal, and cultural factors of influence. It is most

Table 1. Literature Review Evaluation Criteria

		1	2	3	4	5	6	7	8	9	10	11	12	13
ORGANIZATIONAL BUYER BEHAVIOIR LITERATURE														
Calder	(1977)	X			X			X				X		
Chaffray & Lilian	(1978)	X					X					X		
Johnston & Bonoma	(1981)	X			X							X		X
Sheth	(1973)	X		X	X		X					X		
Webster & Wind	(1972)	X			X		X					X		
Thomas	(1981)		X									X		X
SALES PROCESS LITERATURE														
Busch & Wilson	(1976)		X			X		X		X			X	X
Evans	(1963)	X				X	X			X			X	X
Lamont & Lundstrom	(1977)		X		X		X				X	X		X

Table 1. (Continued)

		1	2	3	4	5	6	7	8	9	10	11	12	13
Thompson & Evans	(1969)	X					X		X	X	X		X	
Walker, Churchill & Ford	(1977)		X				X				X	X		
INTERACTION LITERATURE														
Bonoma & Johnston	(1978)	X		X		X	X	X					X	
Green, Gross & Robinson	(1967)		X			X		X		X		X	X	X
Hakansson & Wootz	(1979)		X		X	X	X				X	X		
Lutz & Kakkar	(1976)		X			X	X						X	
Mathews, Wilson, & Monoky	(1972)		X			X	X	X					X	X
Sheth	(1976)		X			X	X				X		X	
Spiro, Perreault & Reynolds	(1977)	X				X	X		X	X	X		X	

Table 1. (Continued)

		1	2	3	4	5	6	7	8	9	10	11	12	13
Taylor & Woodside	(1979)	X				X			X	X		X		X
Wilson	(1976)	X				X			X	X	X		X	
BOUNDARY SPANNING LITERATURE														
Adams	(1976)	X		X		X	X	X					X	
Aldrich & Herker	(1977)						X	X					X	
Chonko	(1982)						X	X				X		X
Jemison	(1981)						X	X				X		X
Organ	(1971)						X	X				X		
Perry & Angle	(1979)		X				X				X		X	

Table 1. (Continued)

		1	2	3	4	5	6	7	8	9	10	11	12	13
CONFLICT MANAGEMENT LITERATURE														
Brown & Day	(1981)		X			X		X				X		X
Cadott & Stern	(1979)	X				X	X	X					X	
Gasky	(1984)	X				X		X					X	
Lusch	(1976a)	X			X		X					X	X	
Lusch	(1979b)	X			X		X					X	X	
Mallen	(1964)	X				X	X	X					X	
Pondy	(1967)	X			X		X	X	X	X	X		X	
Robbins	(1978)	X			X			X					X	
Rosenberg & Stern	(1971)		X			X	X	X					X	X
Schul, Pride & Little	(1983)	X				X	X	X					X	X

Table 1. (Continued)

		1	2	3	4	5	6	7	8	9	10	11	12	13
Stern, Sternthal & Craig	(1973)	X				X	X	X	X	X			X	X
Thomas	(1976)	X		X			X	X	X	X	X		X	
NEGOTIATION LITERATURE														
Bartos	(1974)	X		X		X				X	X		X	
Bass	(1966)	X		X		X			X	X			X	X
Bush & Mosteller	(1955)	X		X		X				X	X	X		
Harnett, Cummings & Hughes	(1968)	X		X		X			X	X		X		X
Nash	(1950)		X	X		X	X	X			X		X	X
Neslin & Greenhalgh	(1983)		X	X		X	X	X			X		X	X
Pruitt & Lewis	(1976)	X		X		X				X			X	X

Table 1. (Continued)

		1	2	3	4	5	6	7	8	9	10	11	12	13
Richardson	(1960)	X		X		X	X				X		X	
LOGISTICS DECISIONS LITERATURE														
Ballou & DeHayes	(1967)	X				X	X		X			X		
Bardi	(1973)	X				X	X		X			X		X
Craig	(1973)	X				X	X		X			X		
Daley & Lambert	(1980)	X				X	X		X			X		X
Lovelock	(1975)	X				X	X		X			X		
McGinnis, Corsi, & Roberts	(1981)		X			X	X		X			X		X
Stock & LaLonde	(1977)	X				X	X		X			X		X

Table 1. (Continued)

Key:

Conceptual Approach

1. Process
2. Outcome

Negotiation Approach

3. General
4. Intraorganizational
5. Intreorganizational

Negotiation Variables

6. Environmental Factors
7. Position of the Participants
8. Negotiation Preparation
9. Negotiation Interaction
10. Negotiation Outcome

Research Design

11. Unit Perspective
12. Dyadic Perspective
13. Empirical Support

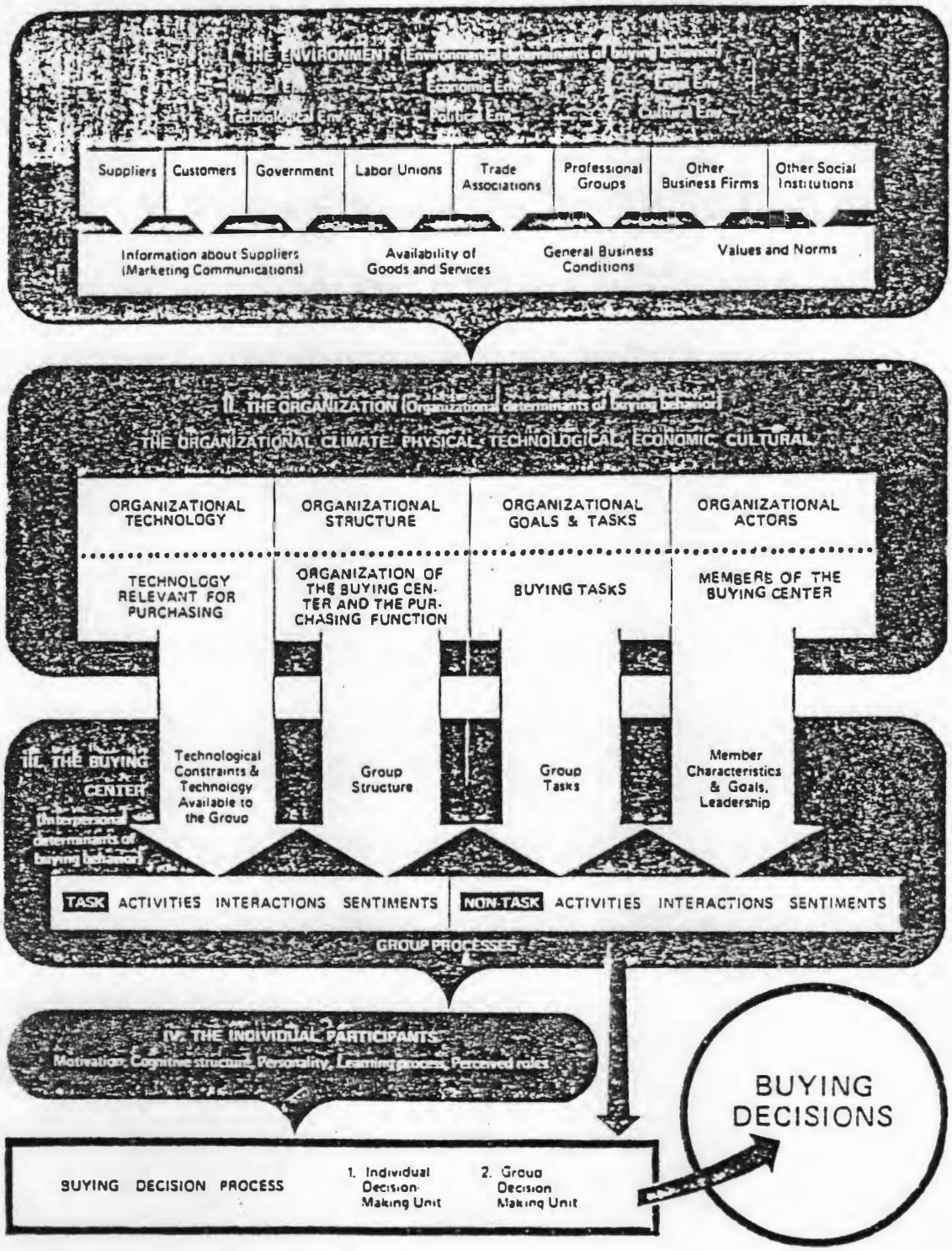


Figure 3. A General Model of Organizational Buying Behavior.

Source: Fredick Webster and Yoram Wind. "A General Model for Understanding Organizational Buying Behavior," Journal of Marketing, 36 (April 1972), pp. 12-19.

important to recognize that these environmental factors are variables over which the organization has no direct control. They may be mediated as influencing agents to the organization through business firms, governments, unions, political parties, educational and medical institutions, trade associations, and professional groups.

In addition to the distinction of the levels of environments introduced in this model, Webster and Wind (1972) introduce the concept of the 'buying center', which differentiates between the general environment of the organization and the group of individuals which are responsible for the purchase of the product. While these levels in the organization are considered separately, the variables of influence for both levels are the same. These variables include the technology, the structure, the goals and tasks, and the participants of the group or the organization.

The last level of consideration is that of the individual participants involved in the buying center. Inclusion the the motivation levels, cognitive structure, personality, learning skills, and perceived roles of the individuals is established to help determine how buying decisions are made under circumstances of individual decisions, as well as group decisions.

While Webster and Wind (1972) provided the underlying foundation for the study of variables which influence

organizational buyer behavior, more recent work has been done to address the variables from a task and role responsibility perspective. Calder (1976), introduces an extension of the environmental concept by integrating the concepts of role analysis to the buying activities of organizations. In his conceptualization, Calder distinguishes between buyers and the postitions in the buying center. This allows for differentiation between the responsibilities of the organizational postitions which make up the buying center, and the participants involved. In addition a second distinction is made between the organizational positions of the participants and the tasks necessary for buying center performance. Consideration of these variables introduces the concepts of interpersonal influence, authority, and task assignment and specialization into the buying function of the organization.

A related conceptualization of the relationships which exist within the buying center has been introduced by Johnston and Bonoma (1981). In their model, the primary emphasis is on the relationship between the members of the buying center. While they recognize the entire organizational structure as well as potential participants which are external to the organization (vendors and external consultants), the primary focus is placed on the perceived members of the buying center. Figure 4 represents the perceived relationships of interest. Included as variables

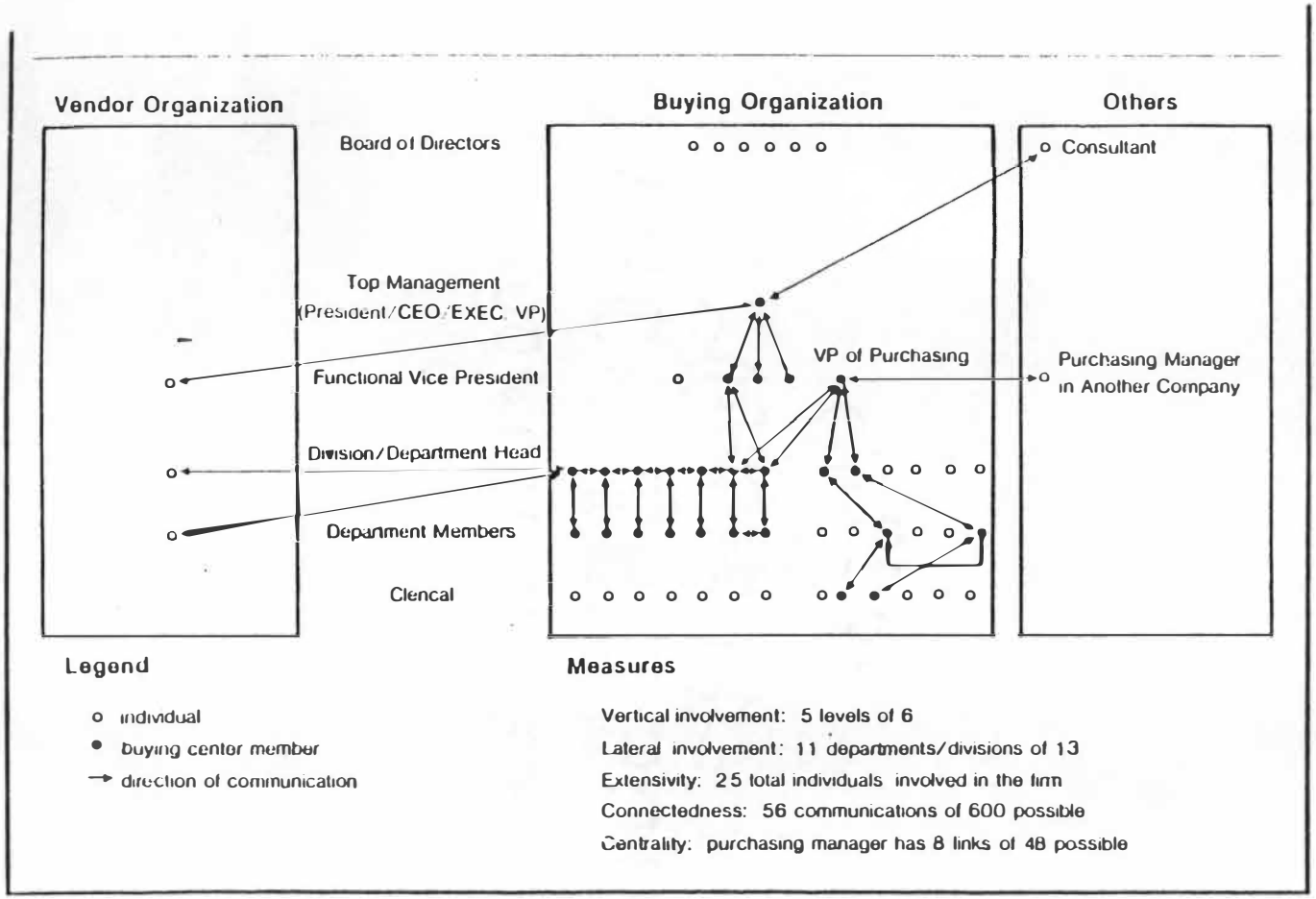


Figure 4. The Buying Center.

Source: Wesley Johnston and Thomas Bonoma. "The Buying Center: Structure and Interaction Patterns," Journal of Marketing, 45 (Summer 1981), pp. 143-156.

of importance are the vertical involvement, lateral involvement, extensivity, connectedness, and centrality. These concepts are intended to assess the relationships between and among the different levels of the organization, as well as the number and degree of those relationships.

Using role theory as a conceptual basis, Thomas (1981) has integrated organizational behavior concepts with the current concepts of organizational buyer behavior to introduce a model which concerns the environmental structure which influences purchase activities. Figure 5. represents his conceptual model which includes four levels of environments similar to those previously introduced by Webster and Wind (1972). This model goes one step beyond the previous literature by using an outcome approach. The variable of interest is the outcome of the interaction which exists at the individual, department, and organizational levels. This development is considered an important variable in the establishment of future environments for purchase influence.

Recognition of the environmental factors which influence organizational buyer behavior will provide a basis for the study of the decision process which is used by organizational buyers.

Process Approaches

Organizational buying behavior was also conceptualized as a process which buyers go through in arriving at a

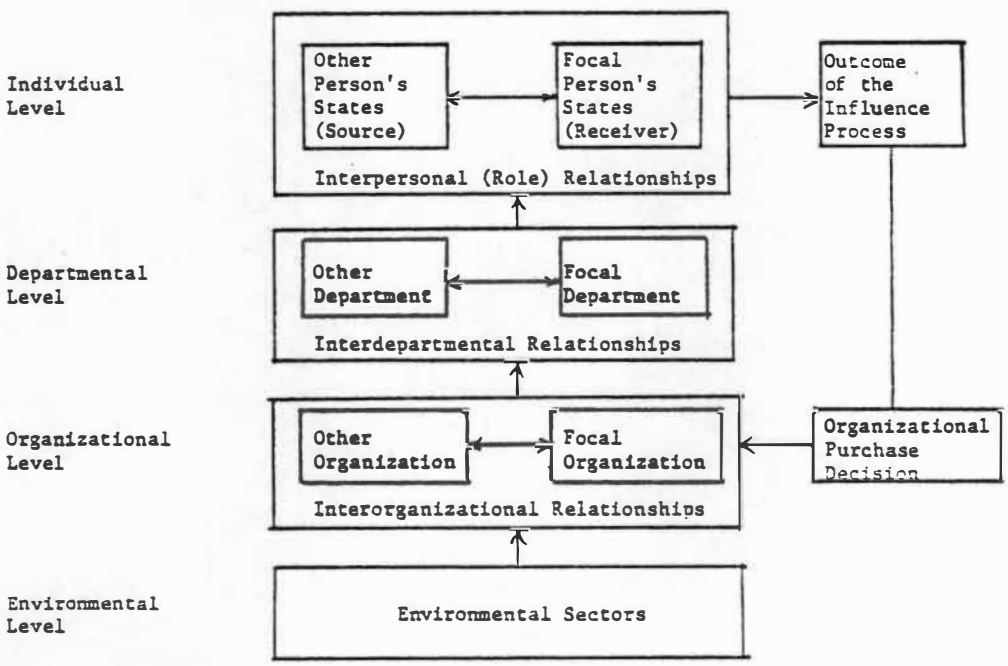


Figure 5. A Conceptual Model of INterpersonal Purchase Influence in Organizations.

Source: Robert J. Thomas. "A Conceptual Model of Interpersonal Purchase Influence in Organizations," Proceedings of the Association for Consumer Research, (1981), pp 7-11.

decision over the purchase of a product. One of the most noted of the early conceptualizations of the decision process was developed by Robinson, Faris, and Wind (1967). In this conceptual approach, called the BUYGRID, the decision process was divided into the following eight stages, called the buyphase:

1. Problem recognition;
2. Determination of the characteristics and quantity required;
3. Description of the characteristics and quantity required;
4. Search and qualification of sources of supply;
5. Acquisition and analysis of proposals;
6. Evaluation and selection of suppliers;
7. Selection of an order routine;
8. Post-purchase feedback.

In addition it was recognized that there are different types of purchase situations. These situations were distinguished by the three buyclasses. These classes included the new task purchase, the modified rebuy, and the straight rebuy.

Sheth (1976) introduced another conceptualization of the organizational buying decision process. This process (represented in Figure 6) integrates external variables as well as organizational variables into the decision process. Using concepts from consumer behavior as a foundation, consideration was given to the types of information sources and situational factors, the characteristics of the person making the decision, the product and organizational characteristics, all of which can influence the purchase

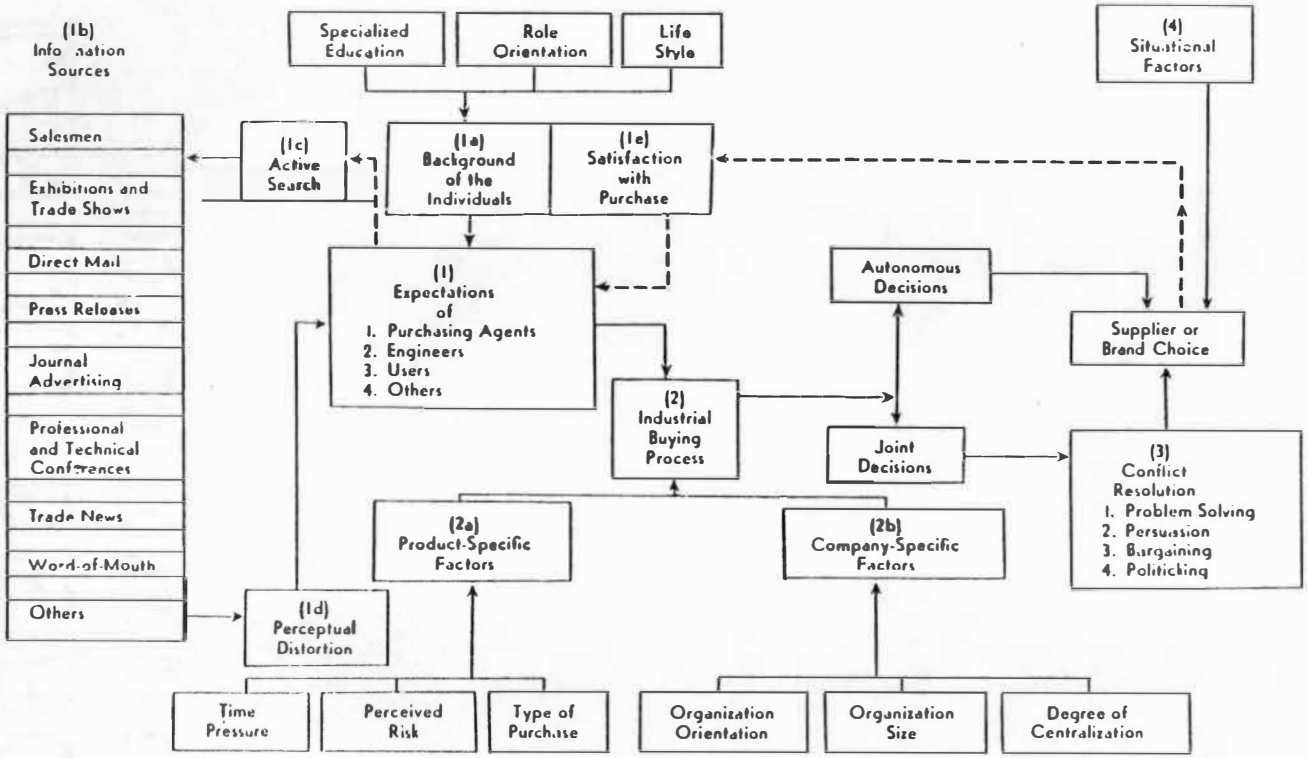


Figure 6. Industrial Buying Behavior.

Source: Jagdish Sheth. "A Model of Industrial Buyer Behavior," Journal of Marketing, 37 (October 1973), pp. 50-56.

decision outcome. This model is the most comprehensive integration of the process concepts and the environmental considerations of the organizational buying environment.

More recently Choffray and Lilien (1978) used a similar approach to the process conceptualization by viewing the process as a set of alternative evaluations. Figure 7 is a representation of this model. While treating the environmental variables in greater generalities this consideration of the decision process uses the appropriate environmental variables as a foundation for the initial consideration of the alternatives. The final determination of the choice of alternatives is dependent on the evaluative criteria used and the iteraction structure comprised within the buying center.

Four major points which are relevant to the interactive environment between organizations evolve from the organizational buyer behavior literature. First is the question of the complexity of the buying situation including the environmental factors as well as the decision process which occurs in the purchase situation. Consideration of both of these types of variables will be important for conceptual development in the interorganizational interaction environment.

Second, all of the current conceptual models of organizational buyer behavior approach the process from the perspective of the buyer, with little regard for the

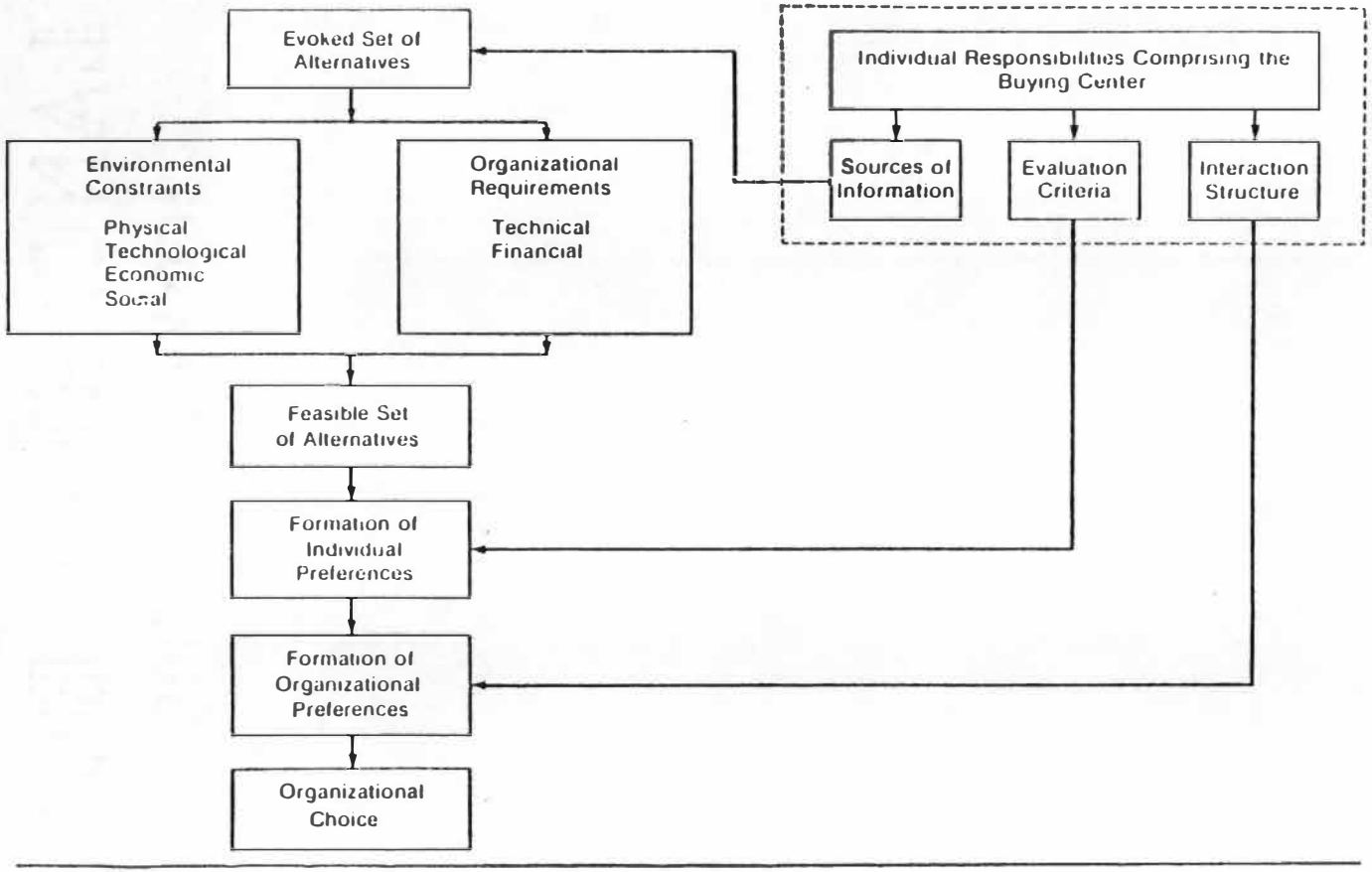


Figure 7. A New Approach to Industrial Market Strategy.

Source: Jean-Marie Choffray and Gary Lilien. "A New Approach to Industrial Market Strategy," Working Paper No. 977-78, February, Cambridge, Massachusetts: Massachusetts Institute of Technology.

participation of the seller. Dyadic approaches are now being called for in the literature (Thomas, 1981). Third, there is the question over who actually participates in the buying center. Most current conceptualizations of the buying center imply that it is comprised of participants who are members of the buying organization. Johnston and Bonoma (1981) and Thomas (1981) have recently alluded to the potential for the seller to be considered as a participant in the buying center. This potential change in the makeup of the buying center can have an influence on the types of relationahips which may occur between participants.

Finally, approaches considered as methods of conflict resolution within the buying center (problem solving, persuasion, politicking, and bargaining) have potential for application in conflict situations between organizations in an interactive environment (Colosi, 1983).

III. SALES LITERATURE

The concepts which have evolved in the area of sales have taken two primary forms. One of the first areas of concern is the personal characteristics of the salesperson which influence the sales process. The second area of interest includes the development of concepts which comprised the sales process itself.

It should be noted that while many studies have been conducted of sales activities, there has been substantial controversy over their conceptualization. Evans (1963) was

one of the first to introduce the concept of the dyadic relationship for sales research. However his study considers the dyadic nature of the relationship to only be a situational variable in the conceptualization. This issue provides a foundation for distinguishing between the types of sales literature. This particular portion of the review will contain only those approaches which do not consider both parties to the sales situation as active participants.

Evans (1963) provided the initial foundation for the study of the variables which influence the outcome of the sales process. The relevant issues of interest were the characteristics of the salesperson and the influence which they had on the outcome of the sale. The outcome of the sale was determined in a dichotomous manner by the success or failure of the completion of the transaction. Lundstrom and Lamont (1977) categorized many of the same variables into the categories of personal and personality characteristics, but differentiated sales performance as being a multidimensional construct using sales management performance evaluations for the measures. The results of both studies provide support for consideration of personal and personality variables as important to the study of sales activities and outcomes.

Another approach to understanding the relationship between the characteristics of the salesperson and the outcome of the transaction has integrated the perceptions of

the power of the salesperson in the sales situation (Busch and Wilson, 1976). This study expands the concepts of the personal and personality characteristics of the salesperson to be variables which affect the perceived power bases of the salesperson. The results indicate that the expertise of the salesperson increases the level of trust by the buyer. Also, the referent power of the salesperson provides the salesperson a greater range of issues over which he may influence the buyer.

Another approach has been developed to assess the performance of the salesperson using the concepts of expectancy theory (Walker, Churchill, and Ford, 1977). Figure 8 demonstrates the influence of the personal, organizational, and environmental variables on the motivation, aptitude, and role perceptions of the salesperson. These variables jointly influence the performance of the salesperson, which intern influences the rewards and satisfaction of the salesperson. This contribution provides more detailed development of the concepts which influence the outcome of buyer-seller interaction.

The literature has also approached the issues of sales from a process perspective. Thompson and Evans (1969) address sales activity as a process which is intended to gain credibility for the selling firm. Figure 9 represents this process, which includes the considerations for

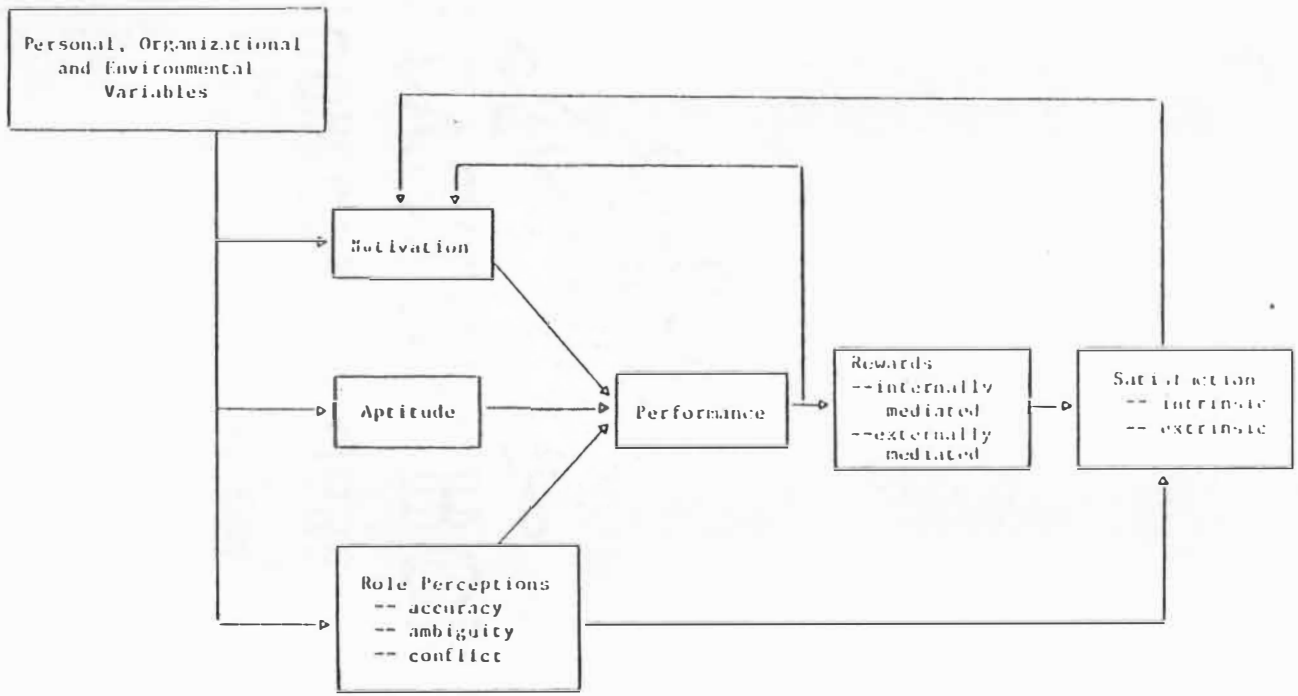


Figure 8. Motivation and Performance in Sales.

Source: Orville Walker, Gilbert Churchill, and Neil Ford. "Motivation and Performance in Industrial Selling: Present Knowledge and Needed Research," Journal of Marketing Research 14 (May 1977), pp. 156-168.

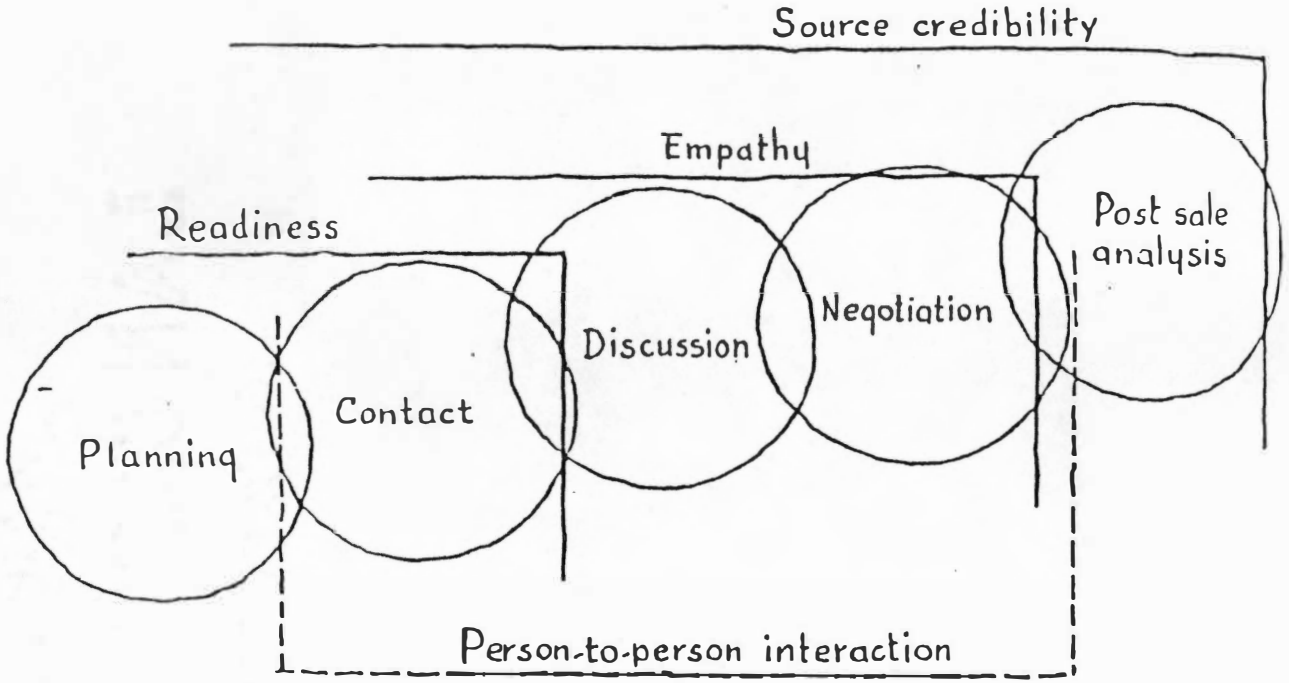


Figure 9. A Behavioral Approach to Industrial Selling.

Source: Joseph Thompson and William Evans. "Behavioral Approach to Industrial Selling," Harvard Business Review (march-April 1969), pp. 137-151.

readiness or preparation for the sales interation environment. Empathy is gained through discussion and negotiation in an interactive environment between the two parties. Last, the analysis of the sales activities by each firm will contribute the establishment of the credibility of the other organization.

The concepts from this literature provide a foundation for conceptualizing the interactive negotiation environment by assessing the variables of importance for the representative responsible for selling the transportation service. The two main issues of importance are the consideration of the variables which influence the salesperson including the personal, personality, and influence characteristics, as well as the process which is followed by the sales person in collecting pertinant information to gain credibility and complete the transaction.

IV. CONCEPTUAL FOUNDATIONS OF INTERACTION

The literature classified as interactive foundations are jointly drawn from the organizational buyer behavior and sales literature bases. These articles consist of conceptual foundations and empirical studies which address the buying-selling process from a joint analysis of both interacting parties. A general assessment of the literature does indicate that more interaction research has been conducted by those in the sales field than the

organizational buyer behavior field.

Research of interactive relationships between buyers and sellers was initiated in laboratory environments by Green, Gross, and Robinson (1967), and Mathews, Wilson and Monoky (1972). Both studies emphasized the relationship between the characteristics of similarity of the parties and the outcomes of the interactive environment. Using a dyadic research design Mathews, Wilson, and Monoky (1972) substantiated the work that Evans (1963) had done to establish that perceived similarity between the two parties, by the buyer, increases the joint level of cooperation in the interactive environment.

In a related study Green, Gross, and Robinson (1967) applied Schelling's (1963) prominence principle to the concept of interactive cooperation. The underlying foundation of this hypothesis was that organizations which prepared for the interaction by preforming a cost-benefit analysis of each proposal could intern propose alternatives of mutual benefit to both parties which would reduce the temporal dimension of the negotiation. The results indicate that initially as the power positions become divergent the opportunities for more rapid agreements increases because the individual benefits for the one party can be used as a bargaining opportunity. However, as the benefits increase beyond a certain point the temporal dimension increases due to the greed of the benefiting party.

Process Conceptualizations

The second half of the decade of 1970's saw substantial development of conceptual models intended to represent the interaction process between buyers and sellers. One of the first was the use of communication variables as a basis for predicting the type of interaction outcomes (Sheth, 1976). In this model (See Figure 10), Sheth differentiates between the style of the communication and the content of the communication which takes place between the buyer and the seller. Included in the conceptualization are three classifications of factors which influence the content and style of the communication. These factors include the personal characteristics of the participants, the factors of the organizations which they represent, and the important elements of the products initiating the transaction. The inclusion of different factor categories tends to influence the communication in different ways. Sheth points out that the product specific factors and organizational factors have more influence on the content of the comunication. Conversely, the personal and organizational factors influence the style of the communication. Finally, the types of outcomes introduced allow for consideration of performance of the process without finalization of the transaction.

Lutz and Kakkar (1976) used the Fishbein model (1967) of situational influence as a basis for determining the

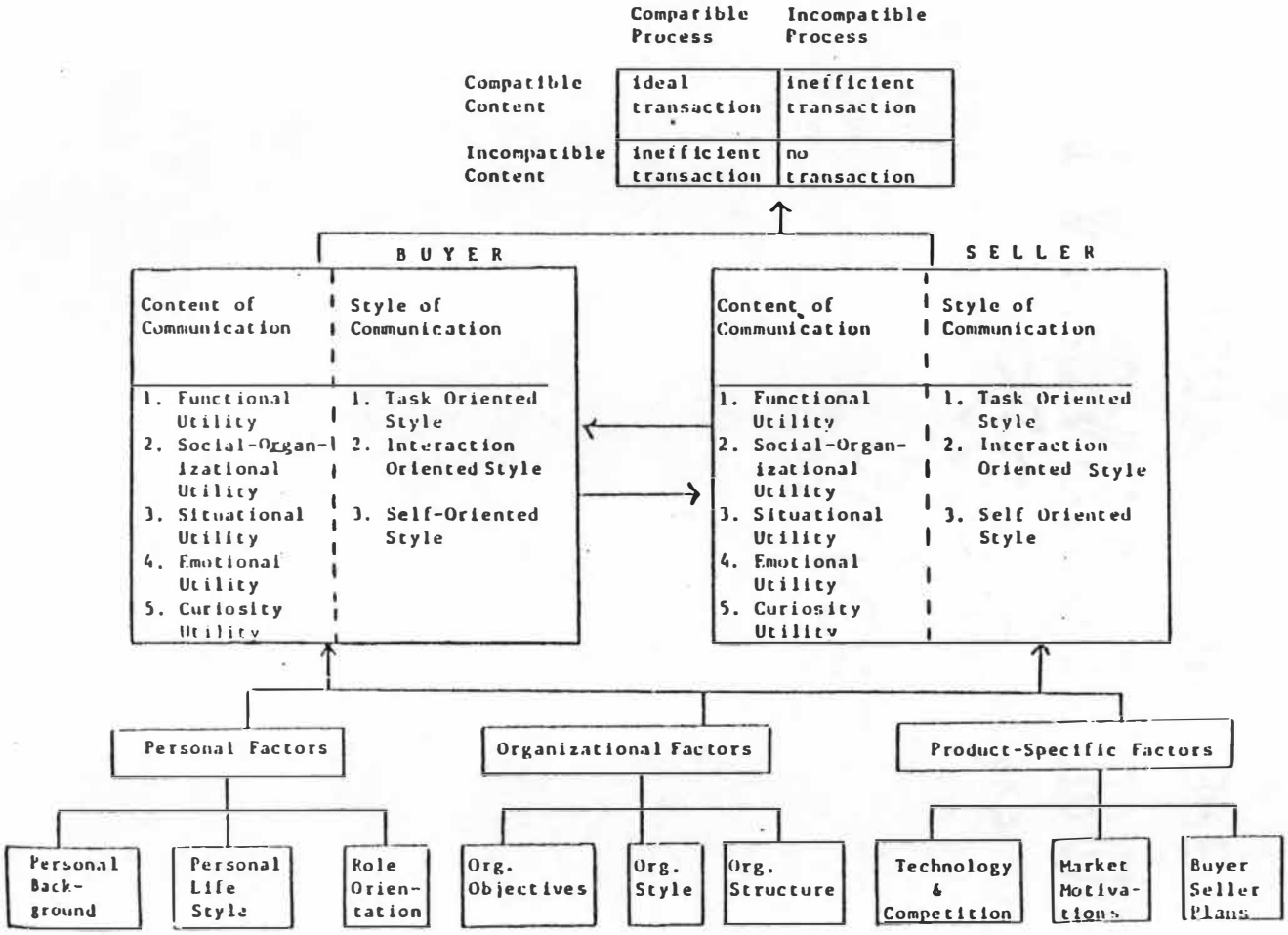


Figure 10. Buyer-Seller Interaction: A Conceptual Framework.

Source: Jagdish Sheth. "Buyer-Seller Interaction: A Conceptual Framework," in Beverly B. Anderson (ed.) Advances in Consumer Research, (1976), pp. 382-386.

interpersonal dimension of situational influence. Using this foundation, they establish that the interpersonal factors are the key aspect which influence interpersonal situations. This influence demonstrates how the overt behavior of one party causes changes in the resultant behavior of the other party (See Figure 11).

Wilson (1976) considered the temporal dimension as an important part of the conceptual process of buyer-seller interaction. The underlying premise of Wilson's model is that buyer-seller situations are characterized by an attempt on the part of both parties to establish and maintain a longterm interactive relationship. This model which includes the stages of source legitimization, information exchange, attribute delineation, attribute value negotiation, and relationship maintenance have substantial similarities to the basic process concepts of readiness, empathy, and source credibility introduced by Thompson and Evans (1969). Taylor and Woodside (1979) more recently added empirical support to substantiate the process.

Another process conceptualization by Spiro, Perreault and Reynolds (1977) centers on the influence of the personal characteristics and the role requirements on the interaction between buyers and sellers. As represented in Figure 12, these variables influence the needs and expectations of the two parties as well as the consideration of their potential personal affiliation. Substantial emphasis is placed on the

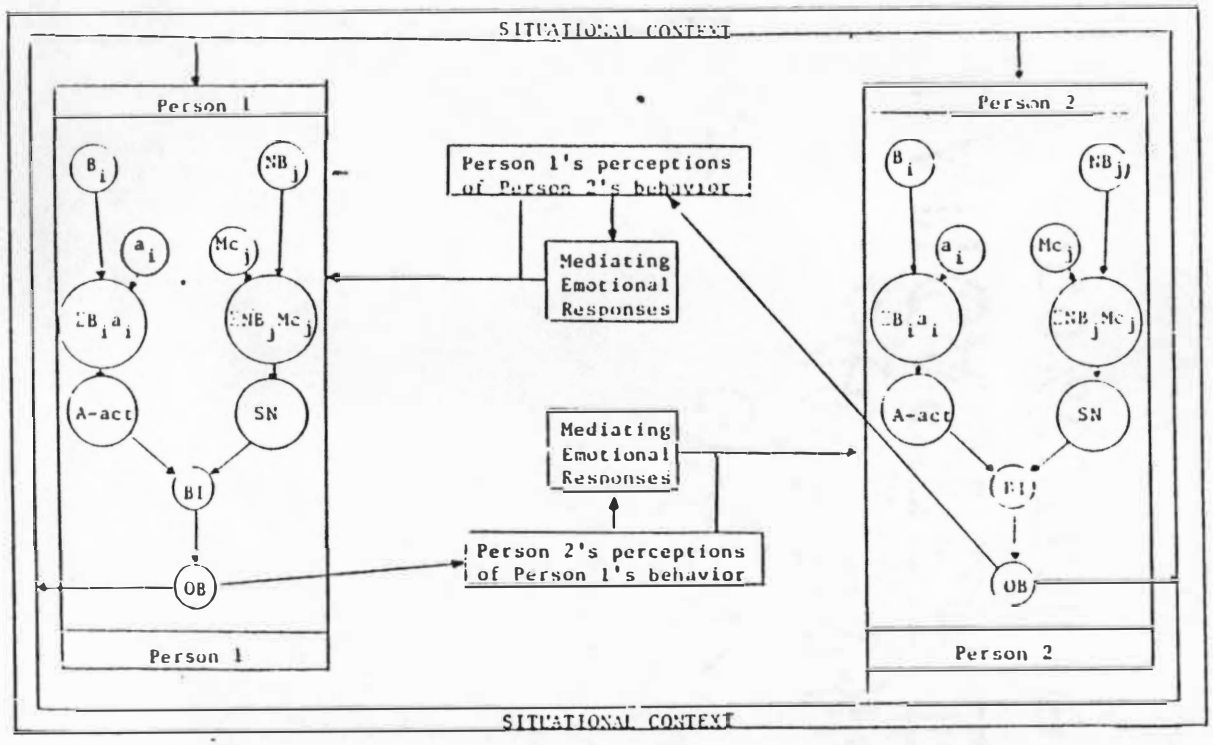


Figure 11. Microformulation of the Interpersonal Dimension of Situational Influence.

Source: Richard Lutz and Pradeep Kakkar. "Situational Influence in Interpersonal persuasion," in Beverly B. Anderson (ed.) Advances in Consumer Research, (1976), pp. 370-377.

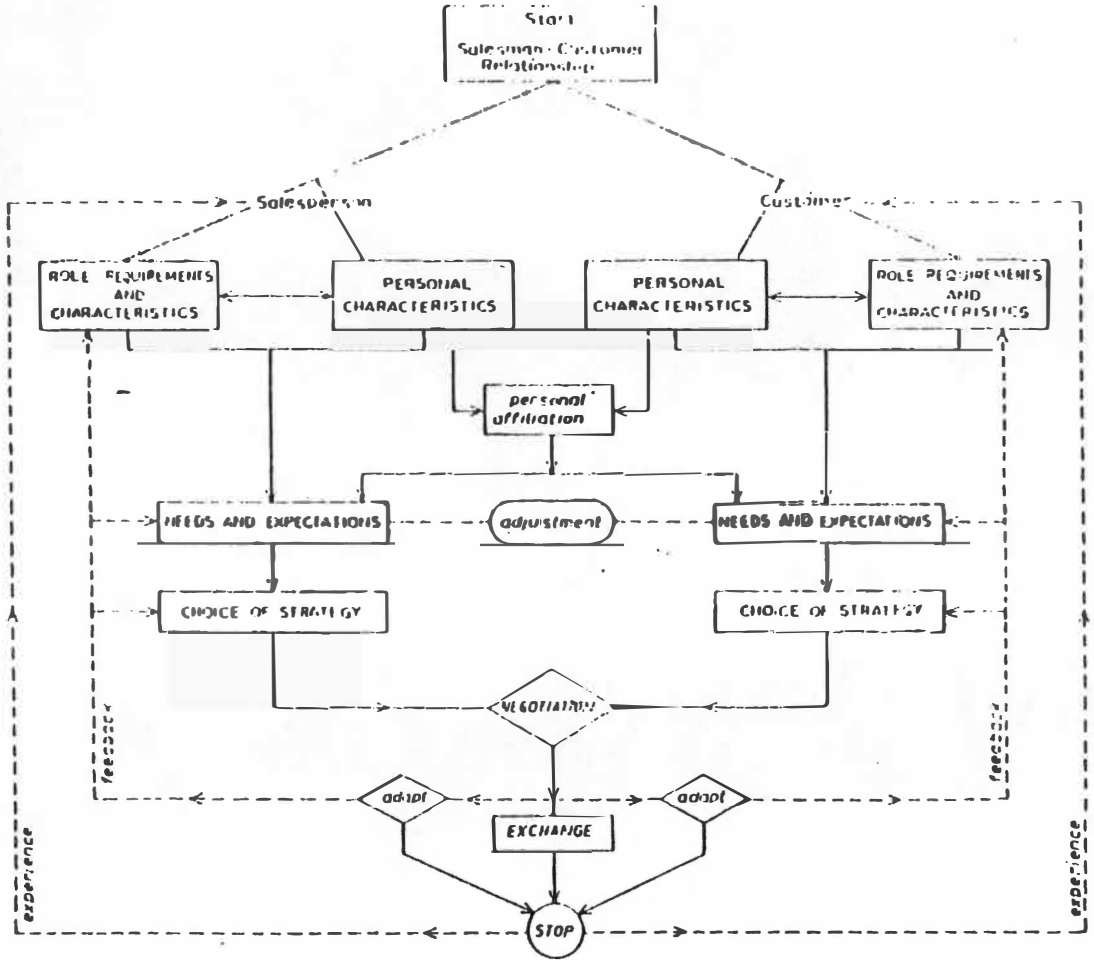


Figure 12. The Personal Selling Process.

Source: Rosann Spiro, William Perreault, and Fred Reynolds. "The Personal Selling Process: A Critical Review and Model," Industrial Marketing Management, 5 (1977), pp. 351-364.

types of strategies which buyers and sellers formulate for the negotiation element of the process. While not explicitely introduced, the consideration of strategy selection places substantial influence on the temporal environment. This includes the attainment of agreements on issues which are intended to ease the environment for future issue agreement. Two weaknesses of this conceptualization are important to note. First, it does not specifically address the process considerations involved in the negotiation stage of the process. Also there is no consideration of the relative positions of the participants. Even with these weaknesses it is still the most complete of the models of the interaction process.

The most recent conceptualization of the interaction process emphasizes the communication which flows between the participants as well as the organizations (Bonoma and Johnston, 1978). The major contribution of this model, represented by Figure 13, is the importance of the relationship between the participants and the organizations which they represent. These variables include the activities performed, the perceived loyalty of the representatives and the type of compensation system used by the organization. In addition, this approach allows the consideration of the position of the participants to be based on organizational as well as personal factors. With this foundation it becomes necessary to consider the relationships which exist

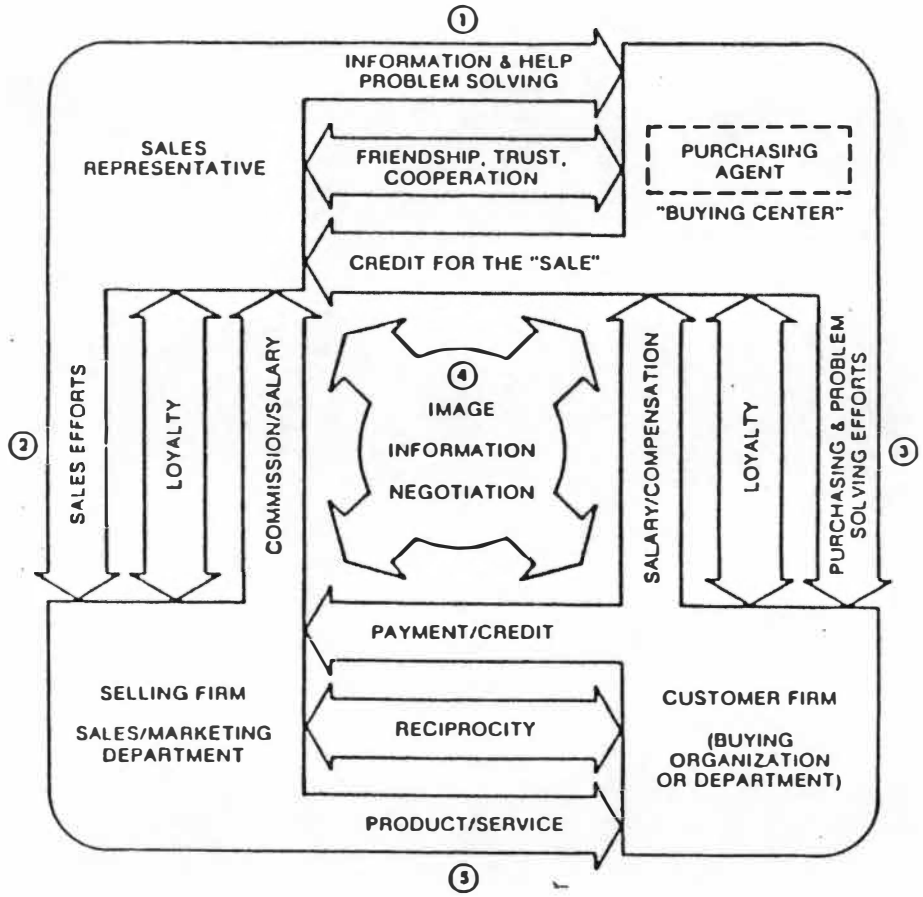


Figure 13. A Model of Industrial Buying and Selling.

Source: Thomas Bonoma and Wesley Johnston. "The Social Psychology of Industrial Buying and Selling," Industrial Marketing Management 17 (1978), pp. 213-224.

between the participants and their respective organizations.

V. BOUNDARY SPANNING FOUNDATIONS

The activities required to negotiate transportation service contracts with other organizations, is performed by organizational members called boundary spanners. It is important to distinguish between the boundary spanners and the organization since the decisions which the boundary spanner makes will reflect his personal characteristics as well as the objectives of the organization which he represents. Understanding the relationship which exists between a boundary spanner and his organization can help explain the negotiating positions which he may take during negotiations.

Adams (1976) classifies boundary spanning into three basic groups of factors. Those groups are the distance between the boundary spanner and the organization, the responsibilities of the boundary spanner, and the influence that the boundary spanner has over the other party to the negotiation. These categories include many variables of boundary spanning influence which can be subdivided into the following groups:

Distance:
- Visibility of the boundary spanner to his constituants.
- Effectiveness of the interactive system between orgagnizations.

Structure of the group.
Control of the outcomes of the interaction by the boundary spanner.

Responsibilities:
Bargaining norms of the boundary spanner.
Perception of the bargaining behavior.
Trust in the boundary spanner by the organization.

Influence:
Perceived expection of future interaction.
Time pressure.
Amount of referent power of the boundary spanner.

From these categories interest has evolved in understanding boundary spanning relationships. Perry and Angle (1976) have established support for a relationship between the distance that a boundary spanner is from his constituant organization and the outcome of the negotiation. This relationship, represented in Figure 14, defines distance in psychological terms rather than physical terms. More recently, Chonko (1982) found support for an influence of the span of control in the organizational structure, on the perceived role conflict and role ambiguity by the boundary spanners.

Another area of emphasis in the boundary spanning literature involves the definition of boundary spanning roles and responsibilities (Jemison, 1981). In his work Jemison has established three categories of boundary spanning roles. Those are: information acquisition and control, domain determination and interface, and physical input control. The results of this study support the contention that boundary spanning roles influence an organizations approach to strategic planning. This can also

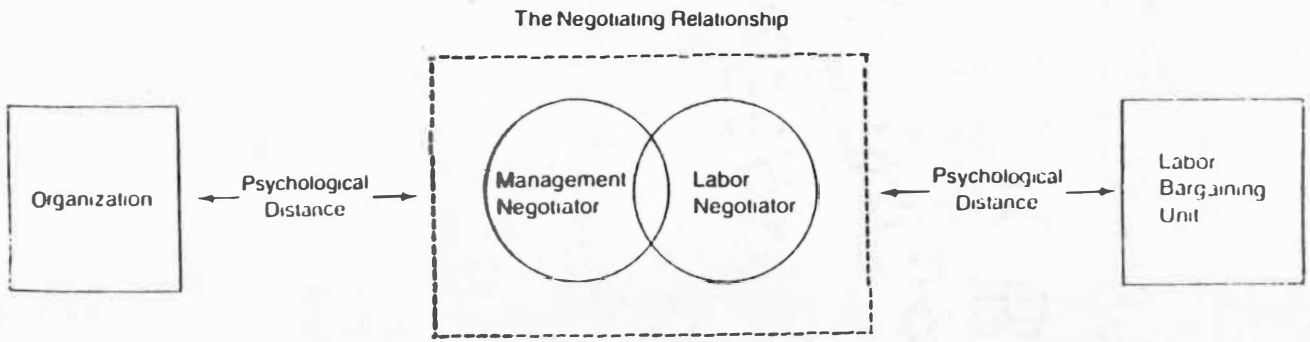


Figure 14. The Negotiating Relationship.

Source: James Perry and Harold Angle. "The Politics of Organizational Boundary Roles in Collective Bargaining," Academy of Management Review, (1979), pp. 487-496.

be an influencing factor over the establishment of transportation service contracts.

The underlying foundation from the boundary spanning literature is that the environmental variables which influence the organization will affect the activities of the boundary spanning representatives (Aldrich and Herker, 1977). This can pertain to those representatives performing the negotiations of transportation service contracts.

VI. CONFLICT MANAGEMENT FOUNDATIONS

Another way of addressing the issues of interorganizational relations involves consideration of the issues which influence the conflict that exists between organizations in the marketing or distribution channel. This body of literature provides a foundation for understanding how conflict arises between organizations, how it can be managed, and how conflict can be resolved.

Recognition of conflict development between organizations requires consideration of the variables which were established in intraorganizational conflict situations. One of the first conceptualizations of this type of environment was developed by Schmidt and Kochran (1972). Under this conceptualization (represented in Figure 15), two environmental factors are introduced which cause conflict between organizations. One is the compatibility of the goals of the two parties. The state of goal incompatibility is determined by the situational

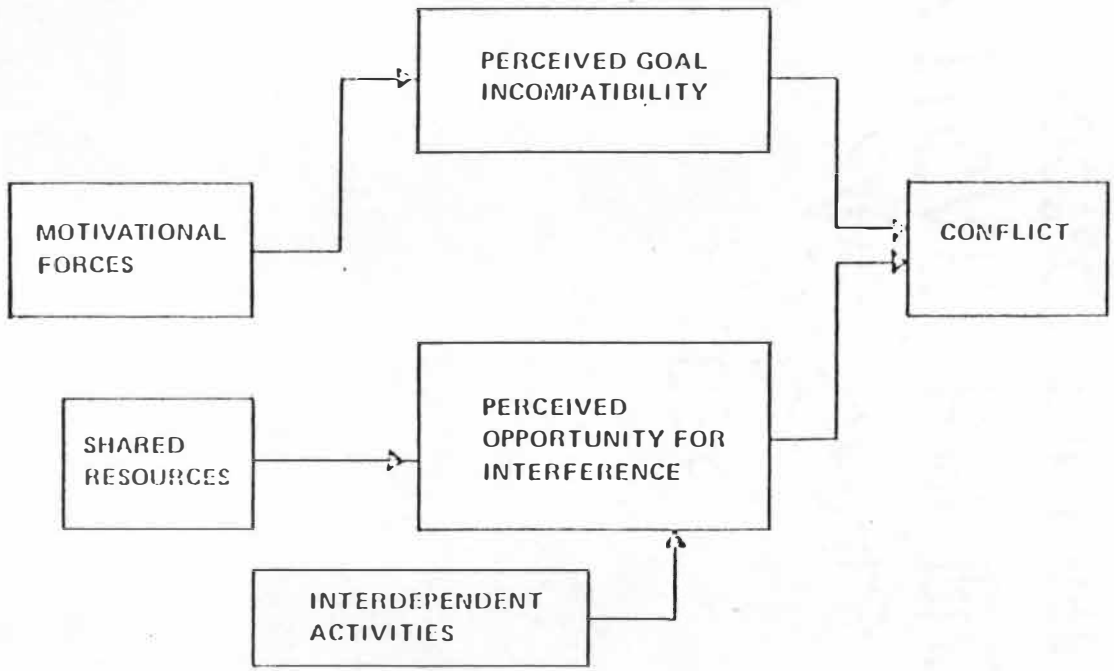


Figure 15. A Model of Conflict.

Source: Stuart Schmidt and Thomas Kochran. "Conflict: Toward Conceptual Clarity," Administrative Science Quarterly, 17 (September 1972), pp. 359-370.

motivational forces acting on the two parties. A second factor of influence on conflict is the perception of interference by the other party. This factor is based on the mutual need for scarce resources, and the amount of interdependence in their activities. The distinction of the variables in this model provide a foundation for differentiation between conflict and competition.

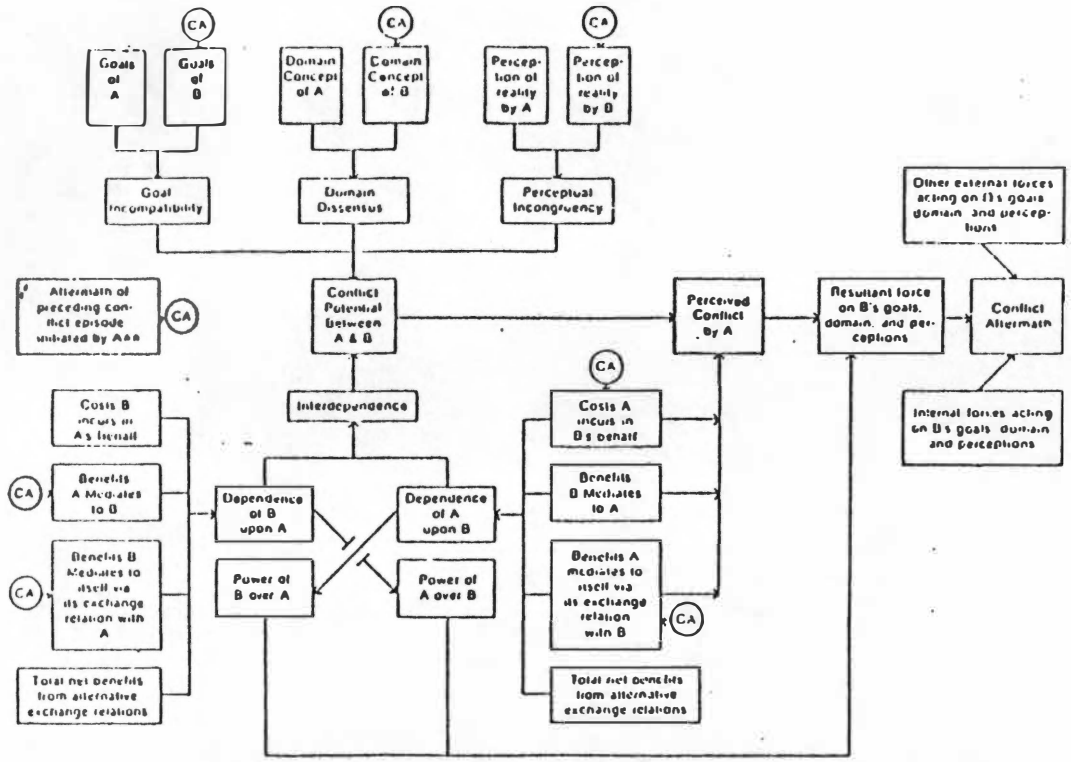
One initial distinction between conflict and competition was introduced by Palamountain (1955), in which he classified distributive conflict into horizontal competition, intertype competition, and vertical conflict (Mallen, 1964). Another interpretation of this differentiation between the two classified competition as being object centered, and conflict as being opponent centered (Stern, Sternthal and Craig, 1973). The consideration of these environmental variables is important for situations involving interaction between organizations.

Another area of importance is the differences in the level of conflict which can exist during conflict situations. This expands the concept of conflict beyond the dynamic process previously introduced by treating conflict development as a process (Brown and Day, 1981). Originally introduced by Pondy (1967), the conflict process evolves through a latent state, a perceived state, a state of felt conflict, a manifest state, and an aftermath state. The development of this process introduces the importance of the

behavior to the conflict as well the environment and the recognition of the situation.

An expansion of the process was introduced by Cadotte and Stern (1979). In this conceptualization (represented in Figure 16), the environmental variables are classified into the compatibility of goals of the parties, the perception of task assignment based on the domains of the parties, and relative differences in the perceptions of the environments which influence the relationship between the two parties. However, Cadotte and Stern extend the concepts beyond the environmental variables to include the considerations of the relative power and dependence relationship which exists between the two parties. The level of interdependence created by the power-dependence relationship and the environmental factors initiate a decision process based on the Rosenberg and Stern (1971) model. This process leads to the potential for conflict between the parties which results in the perception of the conflict by each party. In addition, the model considers the influence of power factors on the conflict situation which contributes to solution and aftermath of the conflict situation. Finally, this model used a dyadic conceptualization recognizing the need for consideration of both parties to the conflict situation.

Two major weaknesses must be noted in the concepts on conflict at this point. First, this literature does not distinguish between the application of different power bases



The dynamic process of a conflict episode in dyadic interorganizational relations.*

*The conflict episode portrayed here is taken from organization A's perspective.

**The variables which change during the aftermath stage of the conflict process are designated by "CA."

Figure 16. A Process Model of Dyadic Interorganizational Relations.

Source: Ernest Cadotte and Louis Stern. "Process Model of Dyadic Interorganizational Relations," Research in Marketing, 2 (1979), pp. 127-158.

in the conflict situation. This difference is important to consider when assessing the reactions of parties to a conflict situation. Second, there is no development of processes which can be used to resolve the conflict episodes. While the Cadotte and Stern (1979) model is intended to assess the variable relationships with the intent to implement conflict management strategies, there is no distinction between conflict management and conflict resolution (Robbins, 1978).

Expansion of the concept of conflict resolution as introduced by Thomas (1976), considers the use of bargaining as a decision process for attainment of this goal. In this process the issues of conflict bargaining include conceptualization or recognition of the conflict situation, behavior of reaction and resolution preparation, interaction between the parties, and a decision outcome determined by a level of satisfaction by both parties. This outcome yields the resolution which is necessary for conflict situations.

Gaski (1984) provided a more complete conceptualization of the relationship between power, dependence, and conflict in the distribution channel. As represented in Figure 17, this model differentiates the sources of power by their coercive and noncoercive approaches. Differentiation between power sources is necessary to establish differences in the levels of perceived conflict by channel members and their resultant performance (Lusch, 1976a, 1976b). Second, there

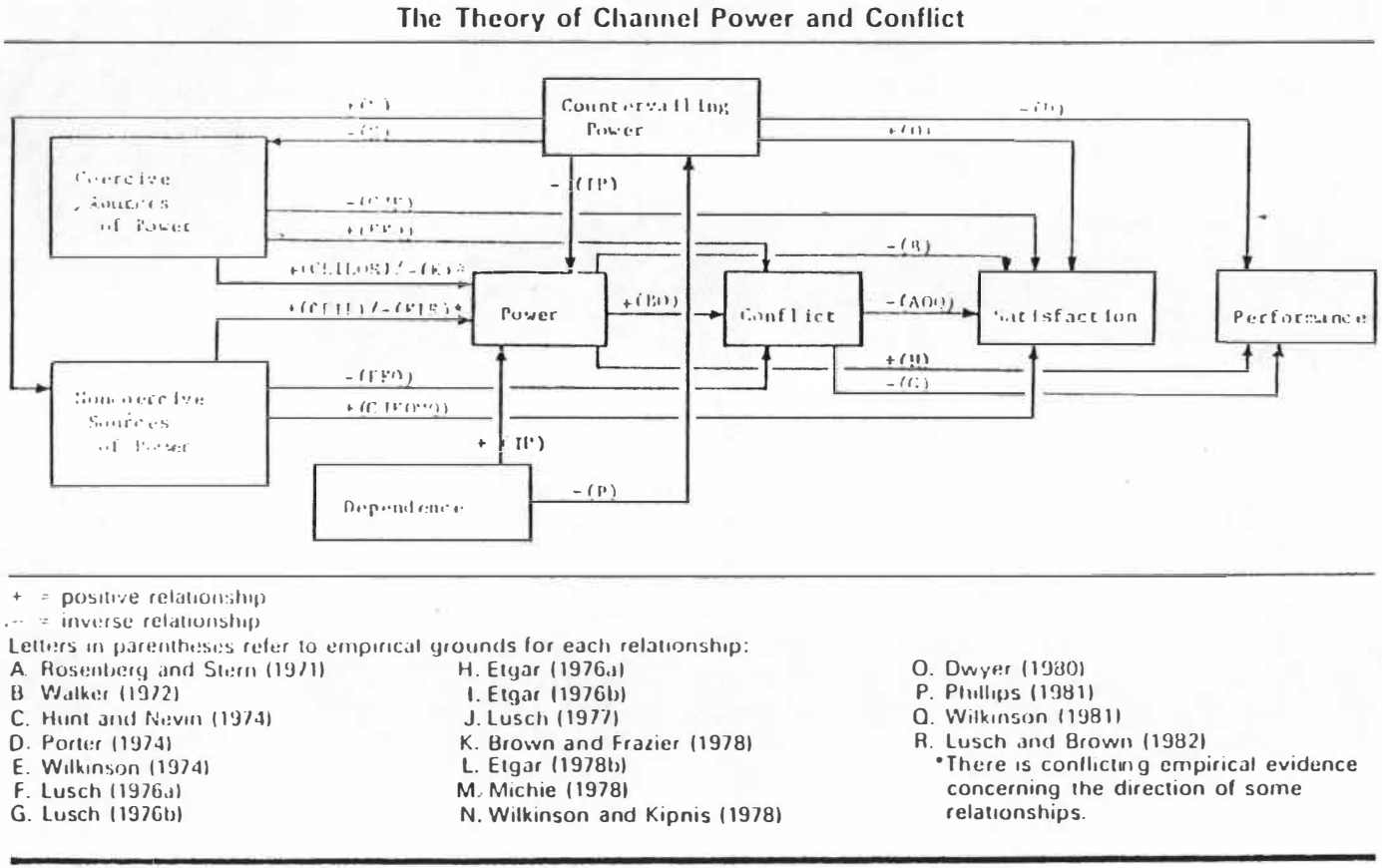


Figure 17. The Theory of Channel Power and Conflict.

Source: John Gaski. The Theory of Power and Conflict in Channels of Distribution," Journal of Marketing, 48 (Summer 1984), pp. 9-29.

is a consideration of the potential for countervailing power between the parties which is initiated by the sources of power used by the parties. However in introducing this concept, Gaski (1984) fails to establish the difference between countervailing power and dependence. The influence of power and dependence concepts provides a foundation for conflict situations which eventually yield levels of satisfaction and performance.

Most recently Dwyer and Welsh (1985) treat dependence as an environmental variable which is influenced by the availability and flow of resources through the distribution channel. This consideration ties dependence of the channel participants to the configuation and political structure of the channel. Therefore, as channel relationships are considered they must be assessed through the environmental structure of the channel.

Assessment of this literature base establishes the importance for consideration of the variables of power sources and dependence, which can influence different types of conflict situations. In addition it considers the influence of environmental variables on the decision process used to resolve conflict situations. Finally, the foundation for a dyadic decision process is introduced to provide a broader consideration of both parties to the conflict situation.

VII. CONCEPTS OF NEGOTIATION

There has been substantial dissagreement over the definitional interpretation of the domain of negotiation (Young, 1975). Examples of different perceptions can be established in the following definitions:

> "Negotiation is a process by which a joint decision is made by two or more parties" (Pruitt, 1981, pp. 1).
>
> "Negotiation is a process the objective of which is to find a compromise, although mutually acceptable" (Bartos, 1974, pp. 16).
>
> "A means of exchange in which the terms of settlement are within the control of the partners to the exchange" (Mitchell, 1971, pp. 383).

These definitions establish negotiation as a process which yields an opportunity for two parties to gain mutual benefit through an exchange situation. Negotiation has also been expanded in the literature to treat situations of interorganizational negotiation between members involved in exhange relationships in the marketing channel. The definition introduced by Bowersox, Cooper, Lambert, and Taylor (1980, pp. 157) is as follows: "The management process of reaching agreement regarding commitment to roles and rewards in joint marketing channel performance." This definition highlights three elements of negotiations.

First, it is a management decision process. Second, commitment is required by the parties. Last, the intent is to benefit the performance of both parties. One consideration which this definition overlooks involves the requirement of agreement for the process. With agreement being an outcome factor, it raises the question of whether unsuccessful negotiation attempts required the process?

It is important to note that some literature sources freely interchange the terms negotiation and bargaining. The assumption that they are synonymous can lead to a misinterpretation in other works. Those that differentiate between the two terms treat bargaining as a subset of negotiation. Cross (1969, pp. 7) distinguishes between the two terms in the following way: "the term 'bargaining' will refer to the process of demand formation and revision which provides the basic mechanism whereby the parties converge toward an agreement, while 'negotiation' will refer to the whole situation within which bargaining occurs." This distinction provides support for the differentiation in theories of negotiation.

Research and theoretical development of negotiations has two primary purposes. These purposes are to describe negotiation activities, and to prescribe or determine what negotiation activities should be (Raiffa, 1982). Attainment of these objectives has divided researchers into the process group and the outcome group, which both contribute to

theoretical development (Neslin and Greenhalgh, 1983). In addition, the way the data is collected plays a major role in the development of the theory. Data may be collected based on past activities, or by the perceptions of future negotiation activities. Consideration of these elements of theoretical contribution, provide a range of possible model applications of negotiations. Figure 18 is an illustration of this range of negotiation theory development considering the input variables to the theory (Bartos, 1974).

Definitional and conceptual development of negotiation requires the establishment of situational characteristics which are necessary for negotiations to take place and be studied. Morley and Stephenson (1977), place the following conditions as necessary for negotiations to take place: (1) a decision making group must be involved, (2) members must have different views about what is an acceptable decision, (3) a battle of wits between the opposing parties must occur, and (4) discussion must occur before action is taken. In addition, each party must have alternative courses of action from which to consider if the negotiations are not successful, the negotiation must progress by a set of established rules or procedures, there must be potential for the exchange of benefits and rewards between the parties, and each party must be willing to make a clear commitment to the other party (Bowersox, Cooper, Lambert, and Taylor, 1980). If these conditions are not met in full

Theoretician's objective is:	Theoretician's problem is:	Subject's orientation is toward:	Type of theory that results is:
prediction	process	past	simple theory of the process
		future	
	outcome	past	
		future	
prescription	process	past	
		future	
	outcome	past	
		future	simple theory of the outcome

Figure 18. A Typology of Simple Theories of Negotiation.

Source: Otormar Bartos. Process and Outcome of Negotiations. New York: Columbia University Press, (1974), pp. 16.

then the nature of the interaction between the parties cannot be resolved through negotiations.

Once the environment is determined to be appropriate for negotiations, a determination of the factors which will influence the outcome must be taken. The collection of this information, is refered to as the preparation stage (Whitney, 1982). The information of importance includes characteristics about the parties, relationships to third parties, types and numbers of issues, power positions of the participants, temporal constraints, type of anticipated agreement, and are they public or private (Raiffa, 1982). While these variables represent many separate decision areas, it seems appropriate to classify them into two groups, issue variables and behavioral variables. These will be important for preparation of interaction with the other party, and for inclusion as specific elements in the contract.

The importance of preparation to negotiation situations is evidenced in the existing research. More specific preparation behavior can be a substantial benefit to interactive discussions of contract issues and the development of negotiation behavior tactics which contribute to different negotiation outcomes. The results of a study by Bass (1966), indicate that organizations which have information on issues pertinant to the negotiation situation and, willingly exchanged that information, were less likely

to deadlock on a solution. Pruitt and Lewis (1973), in a related study, found that willing exchange of information increases the potential for integrative solutions to the problems which lead to the negotiation environment.

While there is empirical research of the negotiation process in the political science and economics literature, the research is strategy and outcome specific in the bargaining situation. Examples of these modeling and empirical foundations include work by Bartos (1974), Bush-Mosteller (1955), Nash (1950), and Richardson (1960). There inherant weakness is that they do not integrate the environmental factors which influence the interactive environment between the parties. By expanding the concept of negotiation beyond that of bargaining interaction, it becomes possible to integrate a total decision process including both contract issue variables and participant behavioral variables into a framework which can be described and more thoroughly understood.

VIII. SPECIFIC APPLICATION FROM THE LOGISTICS DECISION MODELS

Conceptual expansion beyond the variables of negotiation interaction and the exchange considerations is necessary to understand the application of negotiation to contract opportunities within the logistics channel. Integration of negotiation for decisions involving contracts between shippers and motor carriers is an extension of the

decision process over mode and carrier selection.

The relevant literature involving the mode and carrier selection decision can be classified into two groups. The first group includes the cost-service variables which channel participants use as a basis for their decisions. These variables are primarily issue related and would evolve as part of the contract. Cunningham (1982) differentiated issue variables by the competitive environment which was perceived in the models of the process. The traditional and revealed preference approaches provide differentiation between the competitive opportunities of carriers. Both introduce the same variables of operational influence. While Ballou and DeHayes (1967), did some of the initial work in the area, their study was only concerned with the transportation cost (determined by the speed and dependability of the service), inventory carrying cost trade-off. Bardi (1973) expanded the variables of consideration to include the capability and availability of service as well as security or quality of movement of the goods. More recently McGinnis, Corsi and Roberts (1981) assessed the decision trade-off alternatives by classifying them into the following groups: transportation rates, shipper product characteristics, shipper distribution patterns, and shipper service needs.

Consideration of the operational decision trade-offs requires the assessment of characteristics of different

types of shippers. One approach to this problem assessed the perceptions of decision alternatives by different types of shippers based on carrier characteristics (Daley and Lambert, 1980). In their study the variables were deliniated into the following groups:

1. freight rates charged by the mode/carrier;
2. loading and unloading facilities and attendant costs;
3. packing, dunnage, and blocking costs;
4. losses and damages incurred in-transit, including past record of the mode/carrier;
5. serivce in handling claims;
6. shipment tracing capability and cooperation;
7. transit time between orgin and destination;
8. dependability, consistency, reliability in delivering according to anticipated or published schedules;
9. locations served, including routing authority;
10. frequency of service between given locations.

Detailed consideration of the operational variables which influence the mode and carrier choice decision is imperative for analysis of contract issue options between shippers and motor carriers.

A second contribution from this literature base involves the consideration of behavioral variables which logistics organizations use in the mode and carrier selection decision process. While Daley and Lambert (1980) studied the perceptions of operational issues, their model did not consider those issues to be assessed in a decision process. Models which have conceptualized the mode and carrier decision as a process have expanded the theory to consider behavioral variables of the decision makers as well as the operational issues (Craig, 1973; Lovelock, 1975; and

Stock and LaLonde, 1977). These models, all of which are founded in the consumer behavior theory, integrate operational, personal, and decision processes into the conceptualizations. The intended application of the models does vary. Lovelock (1975), addresses the decision process for consumers making a mode decision for personal use (See Figure 19). Because of the application to the consumer environment, emphasis is placed on the inclusion of personal decision variables. Craig (1973, Figure 20), and Stock and LaLonde (1977, Figure 21), have applied the buyer behavior decision processes to the organizational mode and carrier purchase decision. These conceptualizations expand the theory to include organizational variables which influence the mode and carrier purchase decision.

While consideration of these variables is important, it should be recognized that previous conceptualizations of the mode and carrier selection decision evolved prior to the regulatory changes which changed the market structure for the purchase of transportation service. With this change shippers and carriers have the option to enter into contracts for transportation service, which allows an alternative to the previous decision process conceptualizations.

IX. CONCLUSIONS FROM THE LITERATURE

Assessment of the literature provides substantial insight for conceptual development of interactive

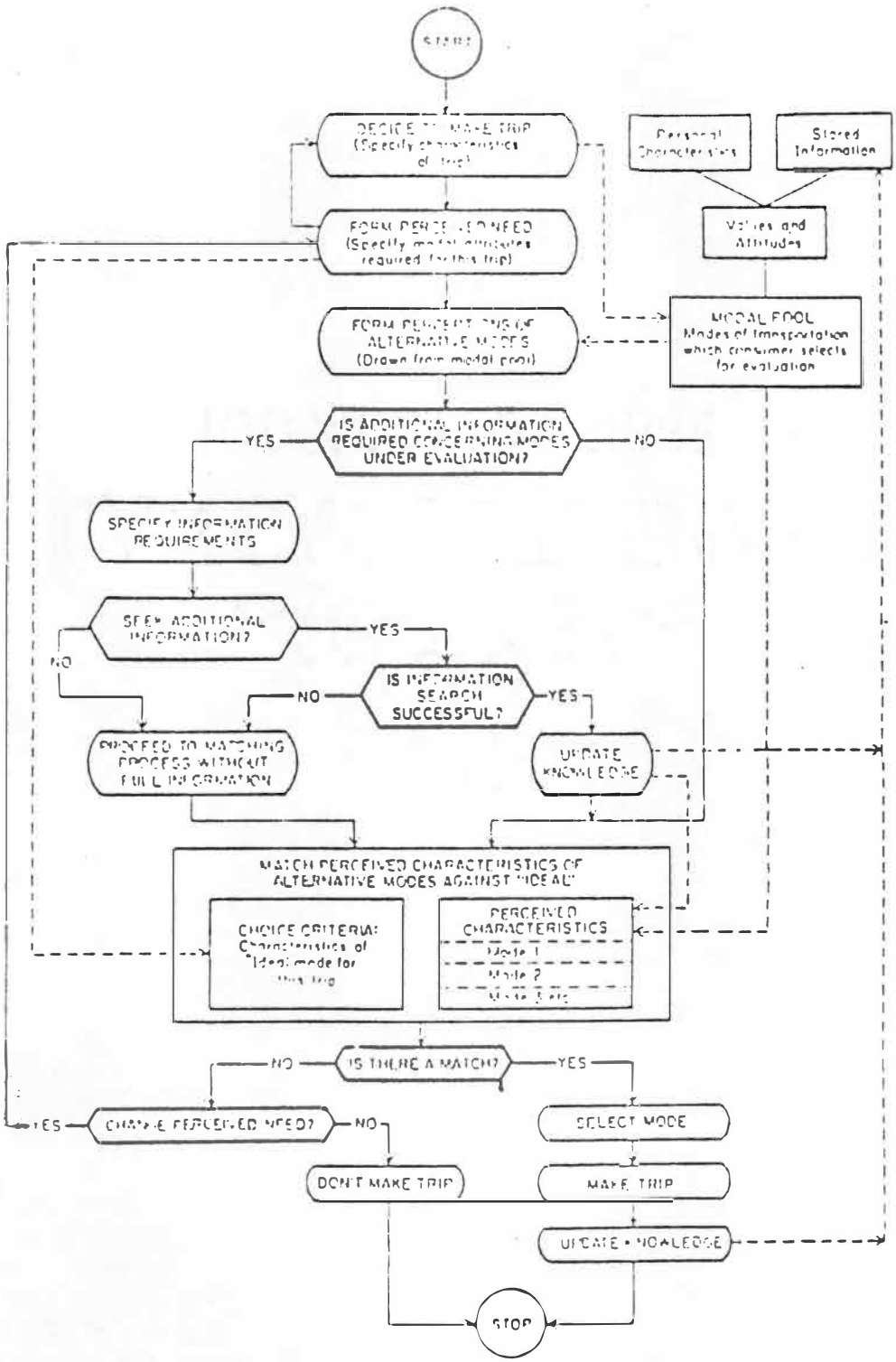


Figure 19. The Modal Choice Decision Process.

Source: Christopher Lovelock. "Modeling the Modal Cjoice Decision Process," Transportation, 4 (1975), pp 253-265.

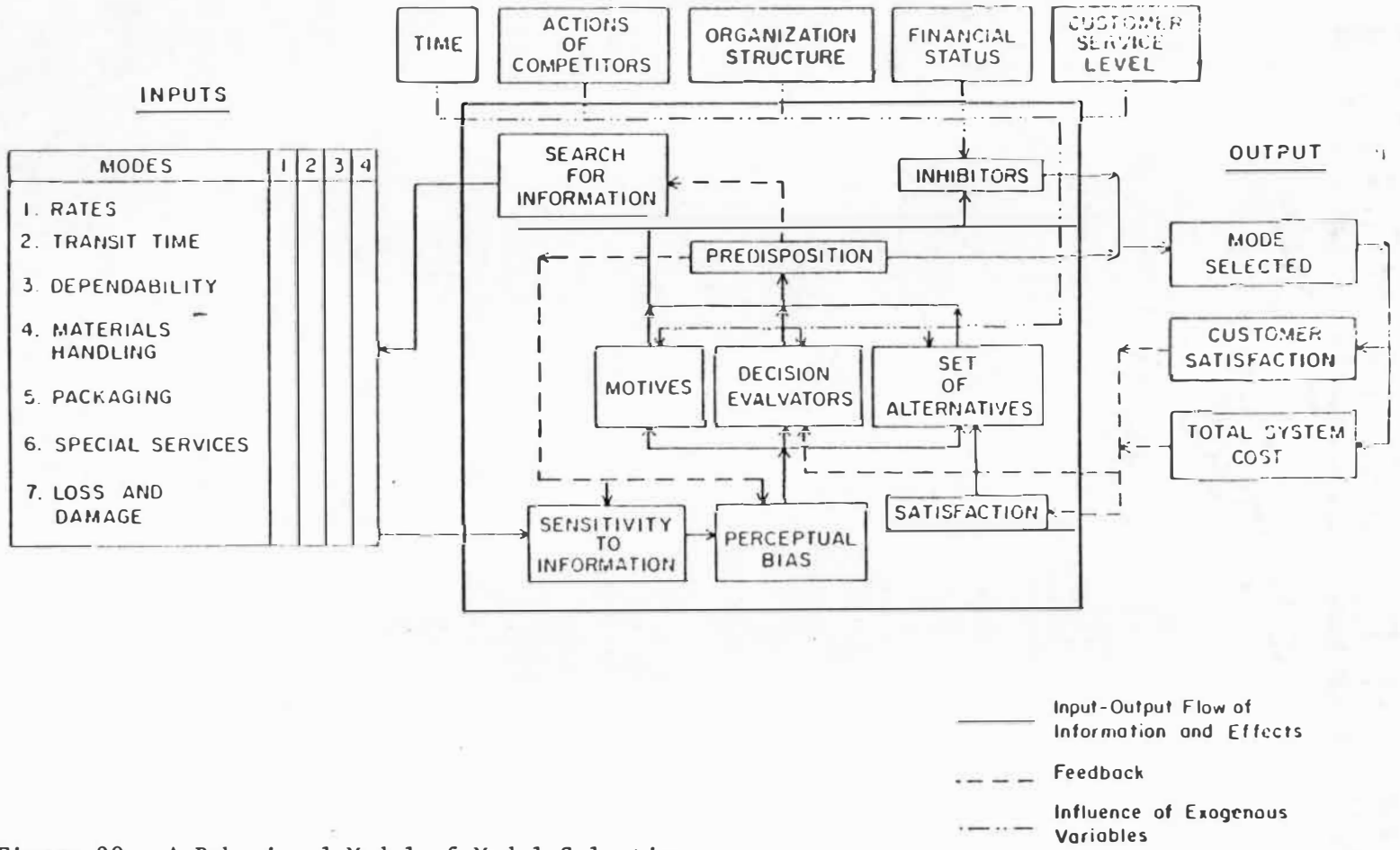


Figure 20. A Behavioral Model of Modal Selection.

Source: Thomas Craig. "A Behavioral Model of Modal Selection," Transportation Journal, (Spring 1973), pp. 24-28.

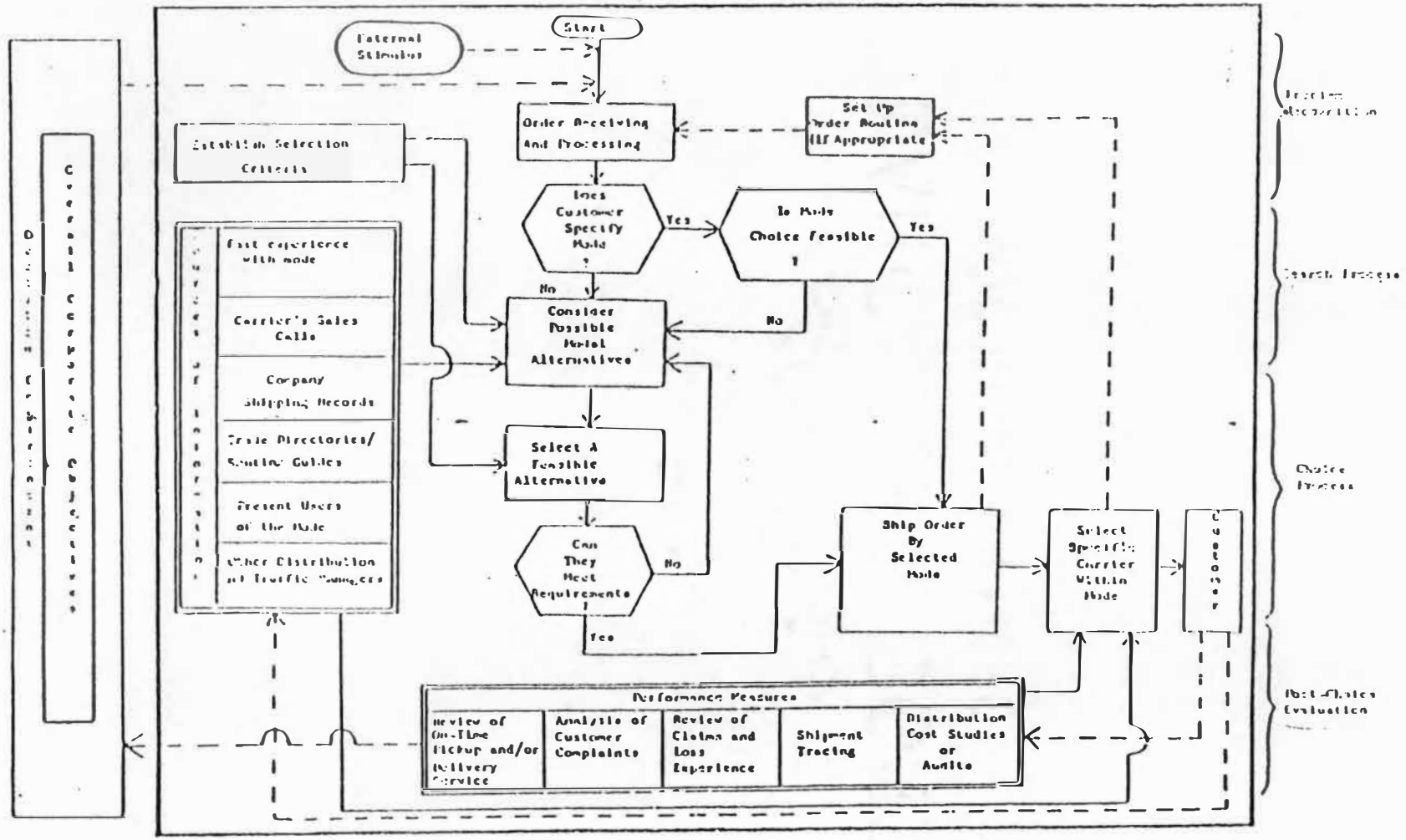


Figure 21. The Transportation Mode Decision.

Source: James Stock and Bernard LaLonde. "The Transportation Mode Decision Revisited," Transportation Journal, (Winter 1977), pp. 51-59.

negotiations between shippers and motor carriers. Several points can be made which will contribute to a conceptual model of transportation contract negotiation. First, the negotiation environment between the two parties creates a form of conflict situation which will require resolution if agreement is to take place. The outcome of this situation will depend on several factors, including the relative power and influence of the participants and their respective organizations.

In addition, consideration will have to be given to the respective environments of the participating organizations, and the characteristics of the individuals which they choose as representatives. Evaluation of both the representative and the organization will also provide insight into the structure of the organizational boundary spanning responsibilities.

Finally, the literature differentiaties between the behavioral processes which are used to achieve the outcomes of the negotiation situations and the issue based variables which will comprise the final outcome. Consideration of the issue variables which comprise the operational characteristics of the shipper and motor carrier will provide the foundation for understanding this specific problem.

CHAPTER III

THE PROPOSED CONCEPTUAL MODEL OF INTERORGANIZATIONAL CONTRACT NEGOTIATION BETWEEN SHIPPERS AND MOTOR CARRIERS

The study of interorganizational negotiation of transportation service contracts must include the recognition of several factors which have significant influence on the way that the process is studied. The initial consideration involves the actual application of the negotiation process for agreement on the terms of a contract between a shipper and motor carrier. As represented in Figure 22, contract agreement may be reached in one of three ways. First, the shipper may request that interested carriers submit bids for the service under consideration, and select a carrier based on the terms of the initial bid. A second application also involves the use of a bidding system. In this situation however, the shipper and carrier use the initial bid as a way to reduce the number of competitors for the contract, and then negotiate the actual terms of the contract. Finally, some shippers determine the carrier of preference through a screening and research process without opening the opportunity to all motor carriers. The parties then negotiate over the terms of the contract to achieve an outcome. Figure 23 represents the general process used in each of these approaches to contract agreement. This study is concerned with the issues which are

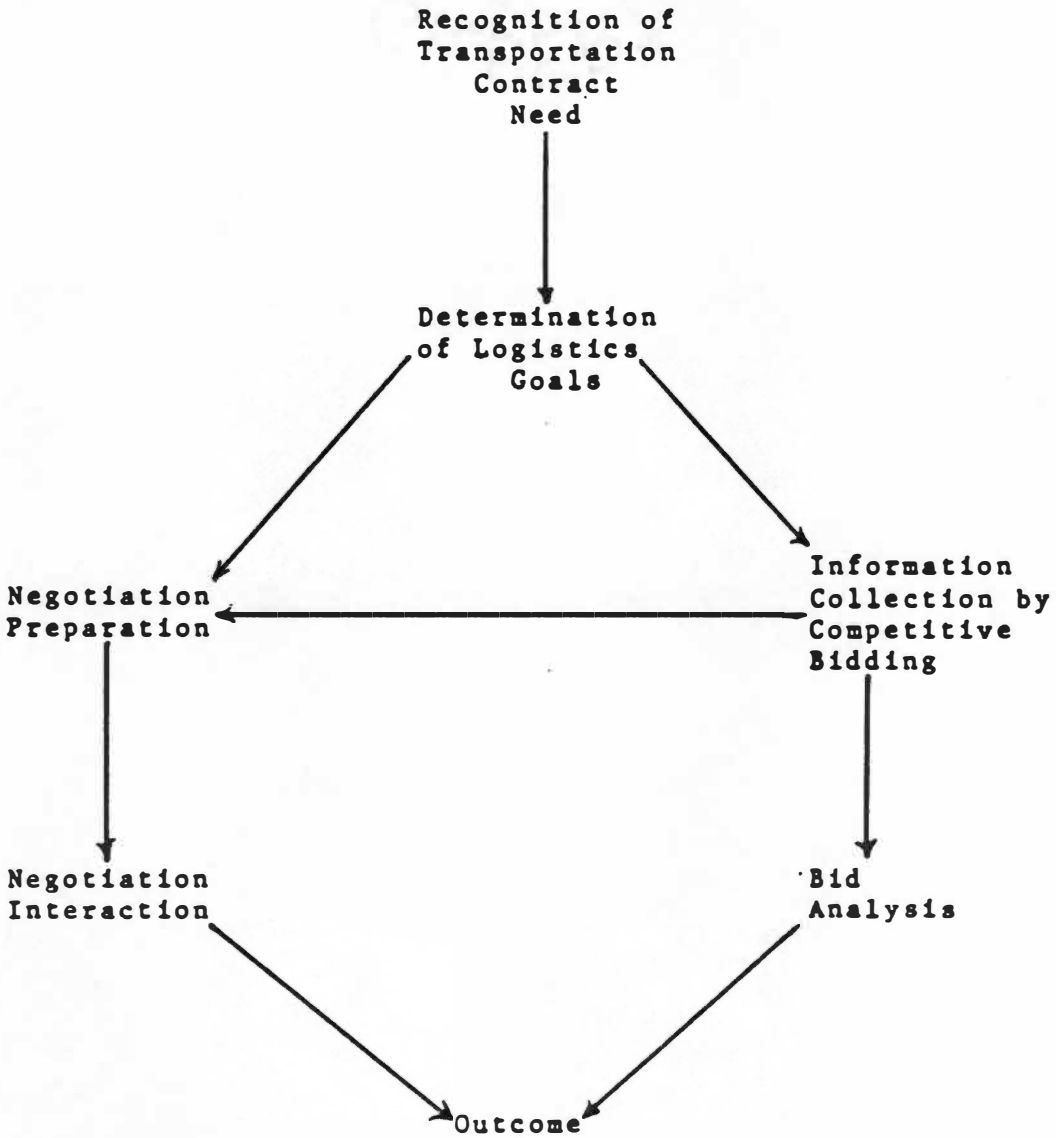


Figure 22. Approaches to Contracting.

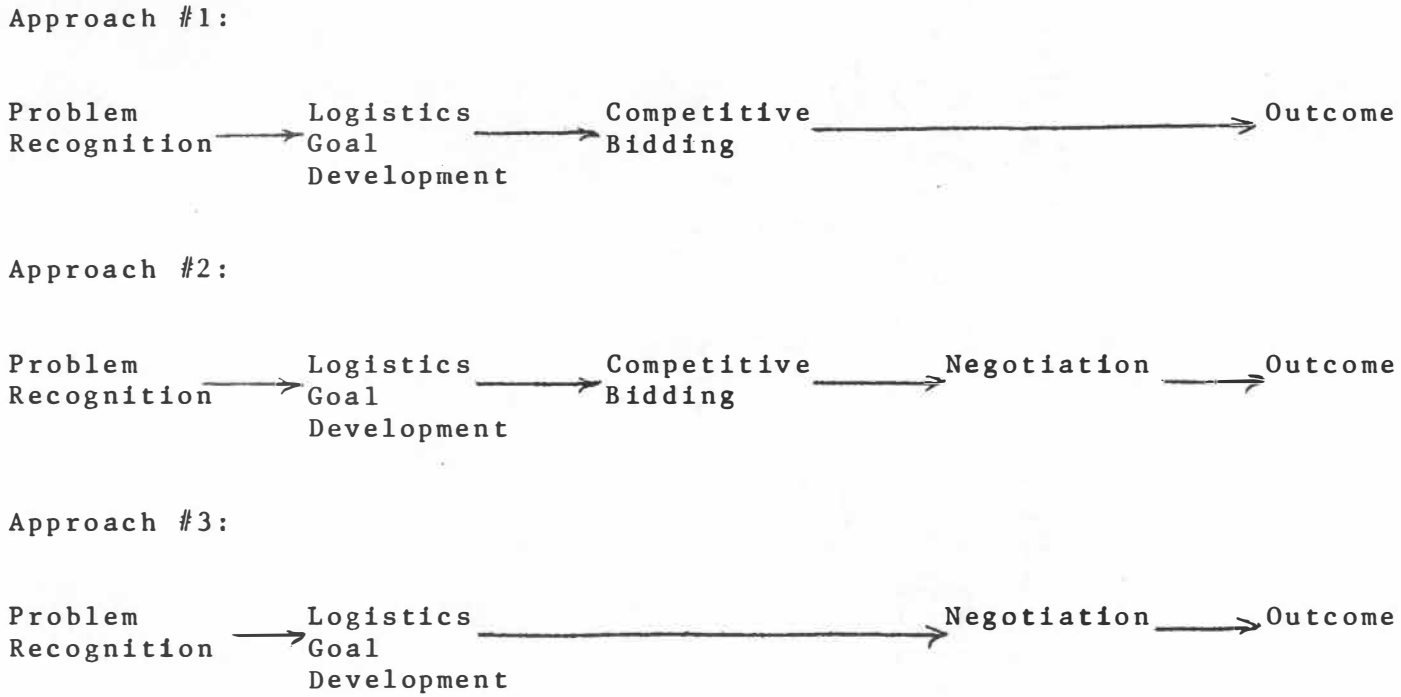


Figure 23. Shipper Approaches to Motor Carrier Contracting.

implemented in an environment in which negotiations acutally took place, as exemplified in the second and third of the previous examples.

While the intent of this study is to understand the characteristics of the participant organizations, it is important to recognize that the negotiation process occurs as a set of activities performed by individual members representing the organizations and not the organizations themselves (Organ, 1971). Conceptual development must include both the personal variables of the representatives as well as the organizational variables to fully assess the environmental affect on the process. A second factor for consideration is that the negotiation environment requires two parties to participate in the process (Perry and Angle, 1979). Therefore the conceptualization must include a dyadic relationship between the two parties (Bonoma, Bagozzi, and Zaltman, 1978). Situational knowledge is also very important for successful negotiations. This knowledge can be classified into two groups. Each negotiator must understand the behavioral factors which influence the level of communication and actions of the parties to the negotiation situation (Barrett, 1982). In addition, consideration must be given to the product or service variables around which the negotiation environment is structured (Hakansson and Wootz, 1979). The mutual consideration of these factors makes apparent the need to assess transportation contract

negotiation as a systematic process. This process includes inputs which contribute to the interaction between the shipper and motor carrier, and the eventual outcome between the two parties.

Proper assessment of the activities which comprise transportation contract negotiation between shippers and motor carriers requires the development of a definition which establishes the contents and bounds of the negotiation activities. Using the previous concepts of negotiation as a basis, the following definition of interorganizational negotiation has been developed for application to this specific environment:

> A management process of collecting and using information (both internal and external to the organization), which is relevant to the parties and contract of interest. This information is used by the organization to gain advantage in a bargaining situation with another party, through the development and execution of interactive strategies, which are intended to accomplish the mutual distribution channel objectives of both organizations.

This definition highlights several important points introduced in the previous literature. These points are that negotiation is a process of activities, which requires the input of information that is relevant to the parties to the negotiation. The information collected by each party will be used in the development of strategies which will be implemented during interaction with the other party. The outcome of the negotiations will contribute to the

attainment of the mutual distribution objectives of the parties.

Using this definition as a basis, a conceptual model has been developed which represents the transportation service contract negotiation process between shippers and motor carriers. Figure 24 represents the general form of the process model which contains the basic construct areas of interest, from a unit perspective. Figure 25 is a comprehensive representation of the contract negotiation process, including each construct representing the activities of both parties to the environment. This dyadic model contains the five basic areas which differentiate between the environmental factors which influence the activities of the negotiators, and the actual behaviors of the negotiators. Environmental variables are separated into two groups. The first group is the Negotiation Environmental Factors of each party. These variables comprise those characteristics of each representative and organization involved, including those external variables over which the organizations have no control. The second group is Negotiation Potential which reflects the perceived relationship between the two parties during the negotiation process.

The behavioral process variables include three basic groupings. Negotiation Preparation is the set of activities which the participants perform to collect and structure the

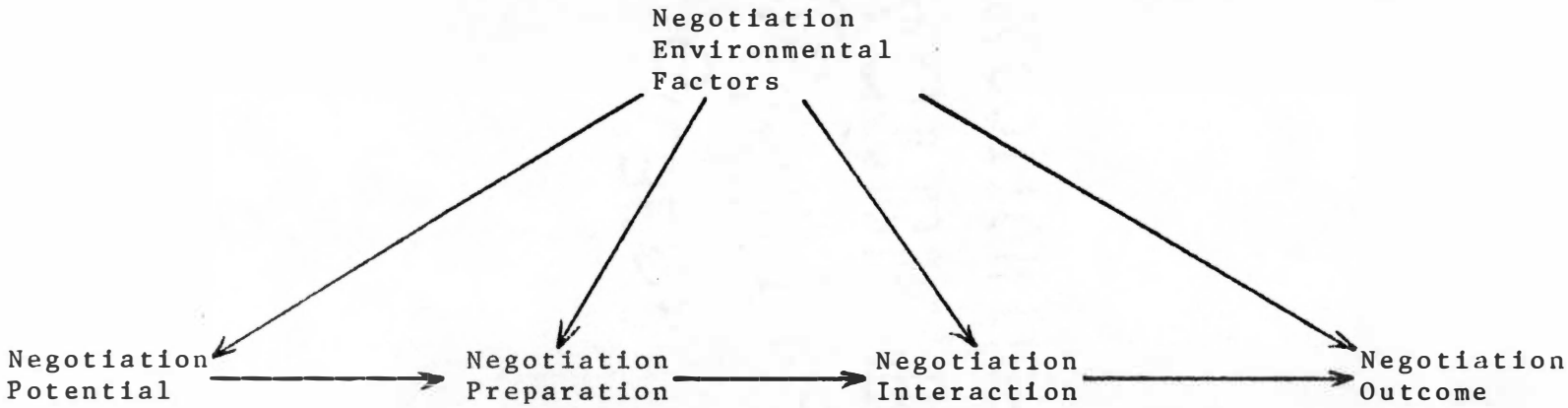


Figure 24. A General Process of Negotiation.

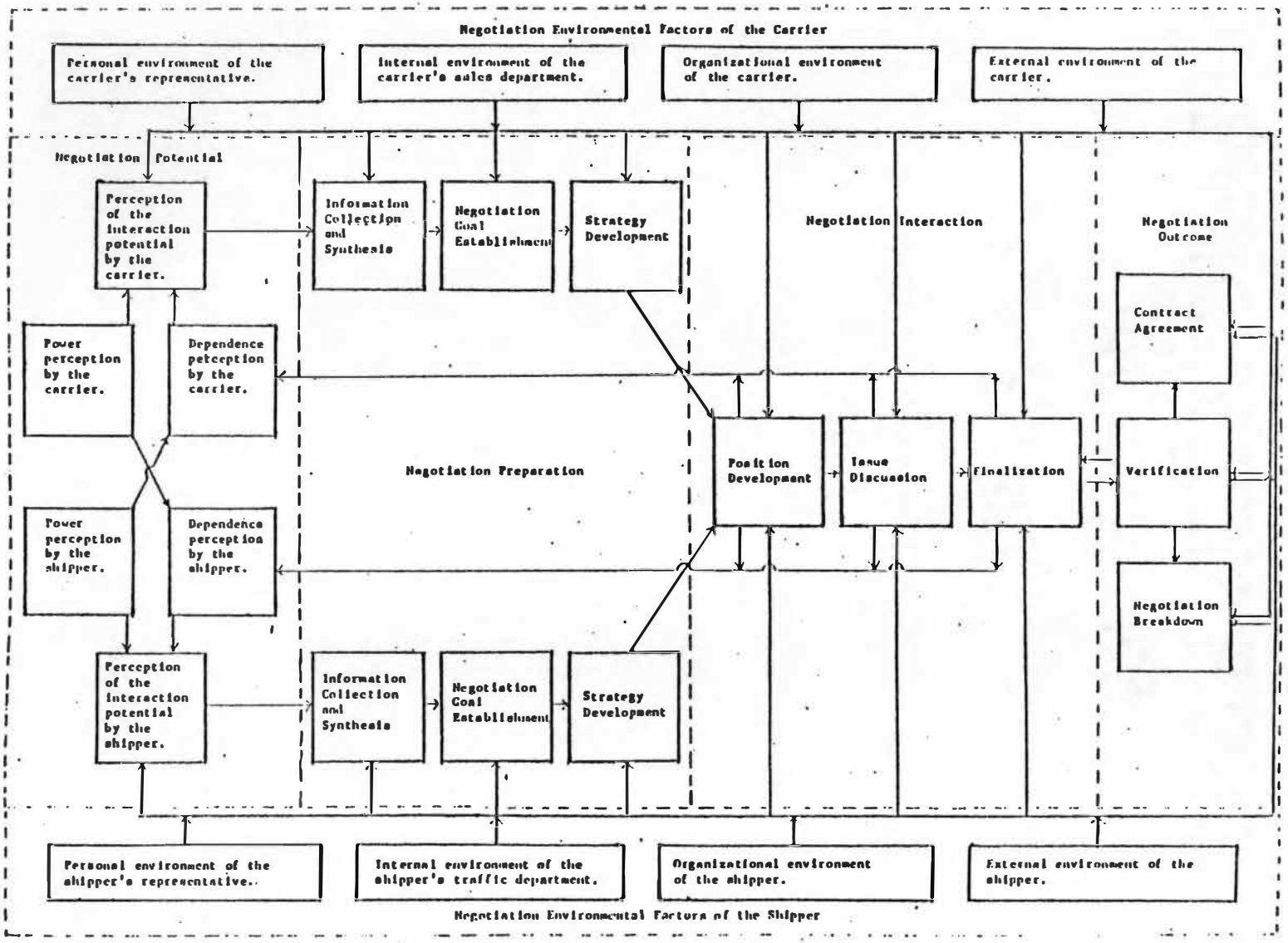


Figure 25. The Shipper-Carrier Negotiation Process.

information for use in the interactive phase of the process. Negotiation Interaction involves the presentation and discussion of proposals between the two parties. The final behavioral phase is Negotiation Outcome, which is an assessment of the result of the negotiation process on the parties.

The remainder of this chapter is a detailed description of the proposed model presented by the basic construct areas within each of its five parts. The constructs of the model will be discussed in terms of their activitiy applications.

I. NEGOTIATION ENVIRONMENTAL FACTORS

Exchange relationships will be influenced by characteristics of the individuals, organizations, and the macroenvironment (Frazier, 1983). While Frazier (1983) recognizes the relative differences between the personal, organizational, and macroenvironment factors, he ignores the differences which can occur within organizations. A more complete consideration of the environmental influences on the exchange environment was introduced by Webster and Wind (1972) when they separated the organization into the general organizational characteristics and the 'buying center' which had ultimate responsibility for the organizational buying decision. Using the Webster and Wind model as a basis, the Negotiation Environmental Factors have been classified into four construct groupings. Those constructs are the personal environments of the parties, the internal or departmental

environments of the organizations, the organizational environments of the organizations which the parties represent, and the external environment.

Personal Environment

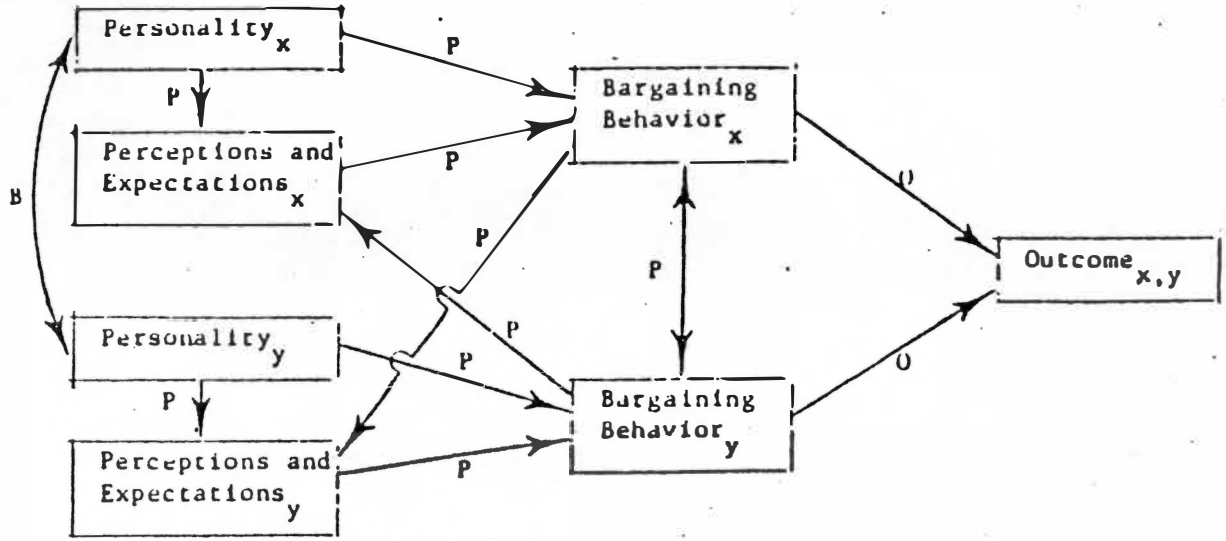
Characteristics of the personal environment can be classified into the personal and personality characteristics of the negotiators (Organ, 1971; Lamont and Lundstrom, 1977; Thomas, 1981). Personal characteristics of the individuals which participate in the negotiations include their age, sex, general physical condition, formal education level and performance, professional affiliations, and negotiation experience. Fisher (1983), considers the knowledge of the negotiator as also being a personal characteristic. This knowledge can be classified in three groups. They include knowledge about the parties involved, knowledge about the interests involved, and knowledge about the facts involved. These characteristics may influence the perceptions of the relationship between the parties, as well as the approaches to the preparation and interaction of the negotiation process. As an example more experienced negotiators may be more detailed in their approaches to preparing for negotiations than less experianced negotiators which have not had substaqntial experience with the process. Negotiators which participated in the case study discussions for this study, felt that their expertise was primarily gained through experience.

Personality variables are also important to consider as variables which influence the negotiation process. These variables are intended to assess the attitudes of the participants concerning the negotiation of a transportation service contract. Personality characteristics have previously been tested using variables such as dominance, endurance, social recognition, empathy (Lamont and Lundstrom, 1977), the need for certainty, generalized self confidence, and the need to achieve (Wilson, 1971). These characteristics can influence the perceptions and expections of the parties and affect the approaches which negotiators use in developing strategies for negotiations as well as the way that they will act and react during the interaction phase (Spector, 1978). The ultimate influence of personality variables on negotiation activities is represented in Figure 26.

The inclusion of these variables will help to provide a foundation to understand the characteristics of individual negotiators. Understanding those characteristics will help to determine their influence on the transportation contract negotiation process when considering the characteristics of the different departments and organziations which they represent.

Internal Environment

The internal environment may be defined as the department within the organization which is responsible for



Key B = Background phase, P = Process phase, O = Outcome phase.

Figure 26. The Psychological Process.

Source: Bertram Spector. "Negotiation as a Psychological Process," in William Zartman (ed.) The Negotiation Process: Theories and Applications, Beverly Hills: Sage Publications, pp. 62.

negotiating the transportation service contracts with the opposing shippers or motor carriers. This distinction is important to consider because of the goal establishment structure of the organziation. While organizational executives establish goals for strategic planning, the subordinate goals of the individual departments within the organization, may not be congruent with the organizational goals. These differences may be based on the personal characteristics of the members of each department, and the functional responsibilities of the department as dictated by the central administration. This is especially important since the departmental members interact with other organizations, such as shippers and motor carriers, and perform functions which are considered boundary spanning functions. It is therefore necessary to distinguish between these two environmental elements of the organization.

Adams (1976, pp. 1175) defines boundary spanning as "those responsibilities which involve the acquisition and disposal functions of the organization". Negotiation of transportation service contracts certainly falls into this category since both parties to the negotiation environment are involved in the acquisition of the transportation service and the disposal of transportation asset utilization. Jemison (1981) has described boundary spanning roles by the following groups: information acquisition and control, domain determination and interface.

From these foundations it is important to notice that the boundary spanning activities are addressed from two different perceptions. First, as Jemison (1981) and Aldrich and Herker (1976) conceptualized boundary spanning as a set of roles performed in the behalf of an organization. In addition to the roles, consideration must be established for the relationship of the boundary spanning roles to the superiors and department which he represents. Therefore the negotiators position will reflect the organizational placement of responsibility for the elements of the negotiation process and therefore reflect the relative importance of transportation contract negotiation by the organization.

Organizational Environment

Establishment of the general organizational environment will help provide a foundation for understanding the strategies which will be used by shippers and motor carriers in the contract negotiation process. Payne and Pugh (1976), conceptualized the organizational environment to be comprised of the organizational context, organizational structure, and organizational climate (see Figure 27). Organizational context and structure are developed from specific factual information about the organization which is verifiable. Organizational climate requires the perceptions of the members of the organization. For the purposes of this study, the variables of organizational context and

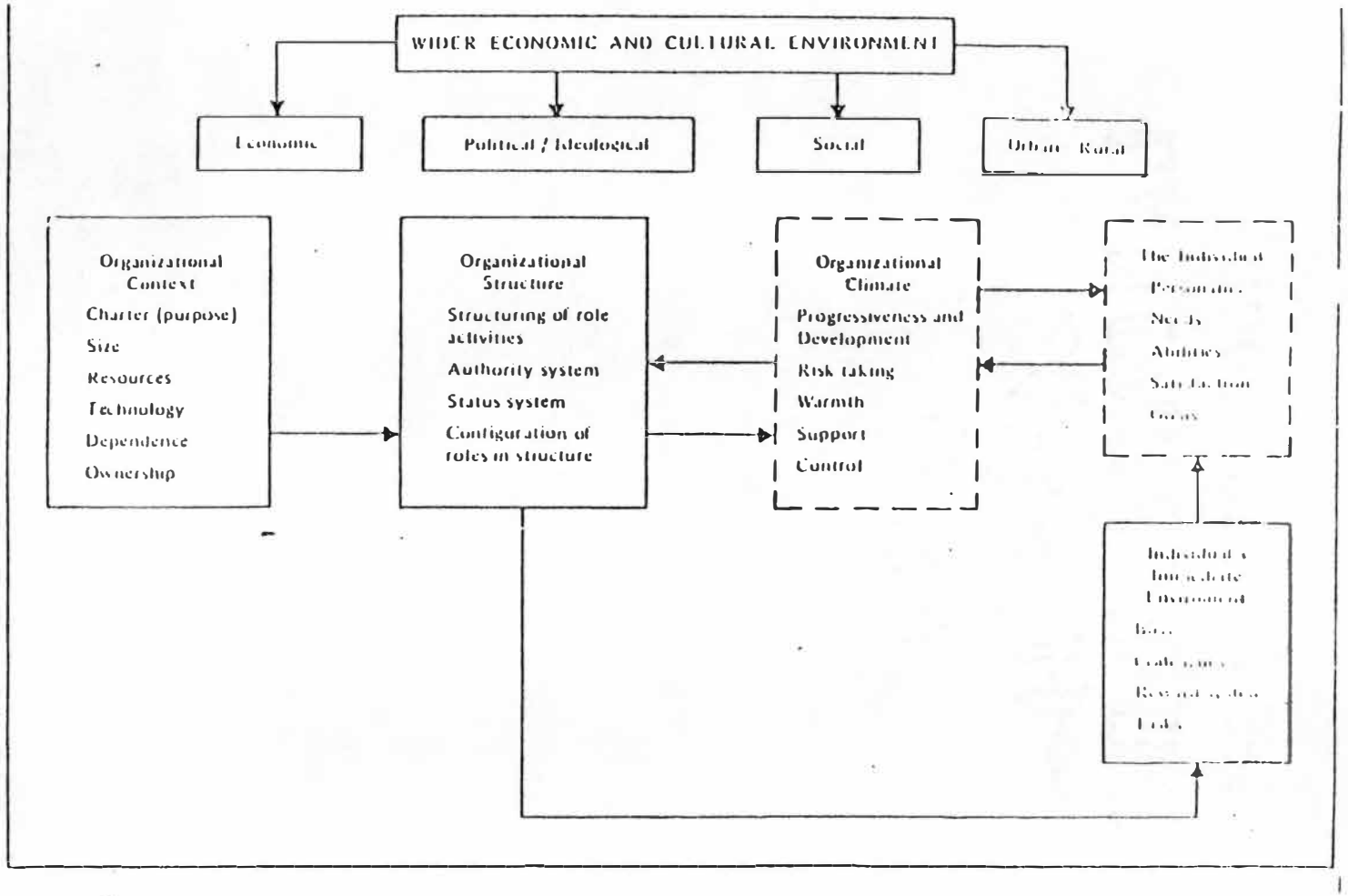


Figure 27. Organizational Structure and Climate.

Source: Roy Payne and Derek Pugh. "Organizational Structure and Climate," In Marvin Dunnett (ed.) Handbook of Organizational Psychology, Chicago: Rand McNally, (1976), pp. 1125-1173.

structure will be used because of their factual basis. Context of the organization will be defined as the size of the organization. Organizational structure variables will be assessed using the structural classification established by Pugh, Hickson, Hinings, and Turner (1968). The structural variables will include: specialization, standardization, formalization, and centralization. The structure of the organization can influence the approaches which the negotiators use in preparing for the interaction environment. As as example, the extent of established policies addressing negotiations, the required number of reports on negotiation progress, and the organizational decision level all can influence the amount of time which organizations need to complete the entire process. These issues can influence the strategies which negotiators may use to attempt to gain some advantage over the other party. Finally, consideration should be given to the attitude that the organizations in desiring a relationship (Frazier and Sheth, 1985). The attitude of the organizations toward each other can significantly influence the behaviors which they exhibit during interactions.

Inclusion of the organization as a consideration provides the necessary integration between the personal and organizational characteristics which influence the behavioral activities of the negotiation process.

External Environment

The remaining environmental considerations involve the variables which the organizations have no direct control over. These environmental factors include the competition, technological factors, political/legal factors, economic factors, and cultural factors. The competitive environment has been selected for this study because it has the potential to influence the outcome of negotiations between a shipper and motor carrier in the short term of the duration of one contract negotiation. It should be recognized that economic factors, technological factors, cultural factors, and legal/political factors, such as the deregulatory movement by the federal government, which expanded the opportunities for contract negotiations between motor carriers and shippers, also affects contract negotiations in the long run.

For the purposes of this study competition will be defined as the number of other alternative sources available to negotiation participants. These sources can be interpreted to utilize capacity or provide comparable service to the party. As previously introduced, competition which influences transportation contracts between shippers and motor carriers can be assessed at three levels. Motor carriers must be able to distinguish between horizontal competition from members of their own industry, and intertype competition from carriers representing other

modes. Shippers must assess the relative service levels of the motor carrier alternatives and other modes available. In addition the cost-service trade-off affects the shippers competitive position within its markets.

Recognition of the environmental variables provides a foundation for understanding the characteristics of each party to the negotiation environment. This information helps to establish the relationship which exists between the parties.

II. NEGOTIATION POTENTIAL

Shippers and motor carriers which actively become involved in negotiating a transportation service contract, do so with the intent to influence the other party and inturn gain some benefit from that contract. This benefit will be based on the nature of the relationship between the two parties. The relationship can be assessed by the perceived position of the two organizations or through establishment of their actual positions. These positions will also provide insight into the applications of each parties actions and reactions to the interactive environment. Assessment of this relationship is based on the power-dependence structure between the two parties.

Stern and El-Ansary (1982, pp. 272) define power as "the ability of one party to get another party to do what the latter would not otherwise have done." This definition implicity establishes the need of both parties to be part of

the negotiation environment. With consideration of both parties, the converse of the relationship can be assessed as the level of dependence that the second party has on the former (Emerson, 1962). Emerson (1962) related the level of dependence, to the motivation of the party, based on the goal attainment of the party through a relationship with a second party. In addition, availability of other alternatives to the first party, such as other sources of transportation service or other shipper customers is a necessary consideration (Dickson, 1983). In contract negotiations between shippers and motor carriers it is necessary to assess the perceptions of this power-dependence relationship.

Recognition of the direct relationship between power and dependence provides the opportunity to use a dependence measure to predict the relative power perception of the party (Stern and El-Ansary, 1972). As an example of this relationship, if Party A perceives himself to be 70% dependent on Party B, then he will be more likely to make concessions to Party B, than if he perceived himself to be 30% dependent on Party B. Conversely, in the first part of the example, Party A will perceive himself to only have 30% of the power in the relationship with Party B, while in the second part of the example he would perceive himself to have 70% of the power in the relationship.

It should also be recognized that when assessing

perceptions of the power-dependence relationship, power between the parties may not be assessed in the same way. The perceptions of dependence between the parties do not have to have the same functional relationship (Keyt, 1980). It is possible that both parties may perceive themselves to be minimally dependent on the other party. This situation can create a difference between a firms operational dependence and perceived dependence. Therefore, it is necessary to assess the dependence perceptions by both parties and compare those figures to the operational dependence of each party in the negotiation environment to understand the true foundations for power applications in the relationship.

The operational dependence can be assessed by considering the factors relating to the amount of business currently being conducted between the shipper and motor carrier, and the amount of business which each allocates to other related competitors. Applying the conceptual foundations established by Emerson (1962), and Cadotte and Stern (1979), operational dependence between shippers and motor carriers in a negotiation environment can be assessed using the amount of contract business between the two parties as a percentage of the total amount of the business that each party conducts.

Establishment of the power-dependence relationship between the parties is also dependent on the sources of

power perceived to be used. The power of each party is a function of the application of its sources (El-Ansary and Stern, 1972; Hunt and Nevin, 1974). Hunt and Nevin (1974) treat the total power function as being comprised by coersive and noncoersive power bases. Noncoercive power comprises the applications of reward, expertise, legitimacy, referent power bases. Assessing the application of the sources of the power will help to understand the application of different negotiation strategies during preparation and interaction.

The joint consideration of the power and dependence variables will contribute to understanding the nature of the relationship between the two parties to the negotiation environment. With this understanding of the underlying foundation concepts which influences the behaviors of the negotiation participants it is appropriate to assess the actual behavior activities which are comprised in the negotiation process for transportation service contracts.

III. NEGOTIATION PREPARATION

Initiation of the behavioral process of contract negotiation between a shipper and motor carrier will be based on the perception of benefit established through the potential relationship. If both organizations are to benefit from the potential contractual relationship, it is necessary for each to assess the relative situation of both parties. This phase, called "Negotiation Preparation",

allows the collection of information relevant to the negotiation environment, which can help each organization reach a level of "readiness" (Thompson and Evans, 1969) for the interaction between the parties. Through-out negotiation preparation, Hill (1979) recommends that the participants should attempt to follow five fundamental principles.

(1) Look for common ground between the parties.

(2) Plan flexibility into the bargaining strategies.

(3) Plan around the issues rather than organizational sequence.

(4) Analyze the negotiation position of all negotiators which will be participating.

(5) Take an appropriate negotiating position.

With these fundamentals as a basis, the preparation phase will be assessed in detail with operational definitions of the key variables.

Negotiation preparation requires detailed analysis of the situation, including the collection, organization, and evaluation of data on the participants, organizations, and external environmental factors which influence the development of the contract issues of relevance to the proposed agreement. This data will be used as a basis for the development of goals and strategies which will be implemented during the interactive phase. Assessment of the environmental factors requires the collection of information

about both parties to the negotiation. Therefore each negotiator must assess the characteristics of himself and his organization, as well as his opponent and the organization which he represents. This supports the dyadic structure of the conceptual model. In addition, the information may be collected through-out the term of the negotiations. This implies that the negotiation process is conceptualized to be a cyclical process in which the participants progress to a point of interaction, discuss proposals, and then adjorn to reassess their relative positions and develop new strategies appropriate for the environment at that point in time. Therefore, situation analysis is a continuing process which occurs as many times as the negotiators adjorn and reconvene.

Information Collection and Synthesis

Information Collection and Synthesis is the process of collecting, organizing, and evaluating the relevant environmental information to the contract negotiation situation between the shipper and motor carrier. The information can be classified into three basic categories for analysis. First, information must be collected on the specific contract issues of relevance to the two parties. This information includes the data used in most mode and carrier selection decisions by shippers, such as the cost and rate structure of the goods movement, reliability of the parties, and the capabilities of the parties to perform

their responsibilities within the terms of the contract (Bardi, 1973; Souza, 1984; Uggen, 1984).

A second classification of information includes the consideration of the negotiation factors which influences the negotiation environment. This information includes the personal and organizational characteristics of the participants (Barrett, 1982). These issues referred to as negotiation issues, address the behavioral aspects of the potential negotiation environment. Questions of who should participate, where should the negotiations take place, and when should the negotiations take place should be answered.

The third consideration of situation analysis includes the methods used to collect the information. Development of information pertaining to the issues of interest may occur through internal resources such as a traffic lane analysis performed by the negotiator or another member of the organization. Another approach is to use information available from outside sources such as credit bureaus, rating agencies, and other experts which have respected knowledge of the transportation exchange environment.

Collection of the information will require detailed analysis to establish a list of priorties for the issues of importance. In addition it is necessary to determine which of the issues can be fractionated into parts more appropriately for strategic proposal development (Whitney, 1982).

With this foundation of information the negotiators can establish objectives which will provide direction during the remainder of the negotiation process.

Negotiation Goal Establishment

Development of goals for the negotiation process should occur at two levels (Druckman,1973). First, goals should be established for the general negotiation environment. These goals should address the desired relationship between the two organizations and the negotiators representing those organizations. Goal establishment may reflect the desired duration of the contract between the shipper and motor carrier and the relative power-dependence relationship between the two parties. The second group of goals should be established for the specific contract issues of relevance. This includes the determination of which issues are necessary for agreement and those which can be withdrawn as concessions to the other party and used as strategies for the interaction phase.

Negotiation Goal Establishment is also dependent on the duration of the negotiations. As the cycle of the negotiation process takes place the goals of each organization may be altered based on the previous positions of the parties. Therefore as the goals change they can influence the development of strategies at different points in the negotiation process.

Strategy Development

Strategy development is the phase in which the parties develop proposals intended to present the relative position of their organization on the negotiation and contract issues. Strategy for the general negotiation issues will be based on the perceived approach by the parties to the negotiation interaction. Issues can include the intent to influence the interactive phase by planning the time, location and immediate physical setting of the interactive phase (Morse, 1976; Shaw, 1976). In addition consideration must be given to the willingness of the parties to cooperate during the interaction phase (Rubin,1983). This can be influenced by the general attitude that the organization has regarding the types of strategies used. As an example firms using a problem solving strategy may find a more cooperative response than firms using an approach which is more self-centered (Pruitt, 1983; Tracy and Peterson, 1979). The resultant issues force the negotiator to make decisions on the level of cooperation he will use during the interaction, the approach to honesty and accuracy of the information which he presents, and the trade-off between long-term and short-term benefits for his organization. Contained within the general negotiation strategy will be individual strategies developed for the contract issues. These will be based on the issue classifications and goals developed.

Consideration of the negotiation and contract issue

variables during the preparation phase of the negotiation process will help each participant to be fully prepared for the actual meetings with the other party. The information collected can be used to establish the interactive relationship between the parties through-out negotiation interaction.

IV. NEGOTIATION INTERACTION

Negotiation interaction activities involve the actual face-to-face meetings between the two parties. This phase consists of three stages of discussion (Richardson, 1977). First, position development comprises the initial period of time when the parties are trying to 'set the stage' for the discussion of the contract issues. The second phase is issue discussion, which includes the discussions of the majority of the contract issues. Last is finalization, which includes the point at which discussions cease and unofficial agreement is reached between the shipper and negotiator. Recognition of the discussion process will help the understanding of how strategies developed during negotiation preparation are implemented.

Position Development

As the parties initiate the discussions during negotiation interaction, each will be attempting to create an environment which will be most beneficial to their own position. Position development is the consideration of the

arrangement of the room where the interaction will take place, the individuals which will be allowed to participate in the discussions, the individuals which will be allowed to observe the discussions, and the establishment of the agenda of contract issues for the interaction phase. The initial setting can substantially influence the attitudes of the negotiators during the issue discussion phase. As this environment develops participants will be introducing their initial positions. These positions will provide a basis for future discussions and therefore influence the eventual outcome of the negotiations by development of the initial position.

Issue Discussion

Issue discussion involves the structure of the discussions between the parties. This structure involves the relationship between priorities established for the contract issues and the order of the agenda. The order of the discussions can influence the importance of the contract issues. As an example, if issues of minor importance are discussed and resolved first, the sum of their priority importance can be more than the priority importance of the remaining issues of discussion. This situation can influence the approach that participants may take to resolve high priority issues to maintain the previous issue agreements.

In addition, the initial position can influence the

rate of concessions by the participants of the study. Therefore, the development of a strategy based on the initial postion and the rate of concessions is a major consideration for each negotiator.

Finally, the discussion environment will be influenced by each parties perception of the accuracy and honesty of information presented. This perception can affect the actions and reactions of each negotiator as the discussions reach a point of conclusion.

Finalization

The last stage in the interactive phase of the negotiation process contains the perceptions of the participants at the point when a verbal agreement is established. This stage, called Finalization, occurs prior to an official or documented agreement between the shipper and motor carrier, and influences the need for concern of the verification of the agreement when it is drafted in its final documented form.

V. NEGOTIATION OUTCOME

Negotiation Outcome includes the elements which address the nature of the final agreement between the shipper and motor carrier. Three elements are considered in this stage of the process. Verification includes the specific characteristics of the contract. This stage is important in situations where the party responsible for the preparation

of the final document includes provisions which were not previously agreed to during the issue discussion and finalization stages. Therefore, it is necessary to verify the contents of the contract with the terms agreed to during finalization. The second element of negotiation outcome is the breakdown of the negotiations. This stage is the result of the failure of the two parties to reach agreement on the contract issues of importance and therefore both agree that their mutual needs can be better satisfied by other sources.

Finally, the two parties can agree on the terms of the final document and establish an interorganizational contractual relationship for the duration of the terms of the contract. Agreement may result in one of four outcomes (Dommermuth, 1976). These outcomes include situations in which both parties profit from the contract, neither party profits from the contract, the shipper profits from the contract but the motor carrier does not, and the motor carrier profits from the contract but the shipper fails to profit.

Consideration of the variables which comprise the negotiation process between shippers and motor carriers will contribute to the understanding of how transportation service contracts are negotiated.

CHAPTER IV

RESEARCH DESIGN AND METHODOLOGY

The conceptualization introduced in the previous chapter represents a model of the process which takes place during interorganizational contract negotiations between shippers and motor carriers. This chapter presents the methodological procedures used to empirically test the key concepts and variables contained within the model presented in the previous chapter, for the purposes of expanding the knowledge of transportation service contract negotiations. The conceptual foundation for this specific research project contains the constructs which were predetermined to most significantly influence the negotiation process. The other constructs were excluded because of the broad scope of the initial conceptualization and the need for specific research direction. It should be noted that the five major construct areas do remain intact and the specific constructs contained within each construct area are represented in Figure 28.

This study is exploratory and descriptive in nature. There are several reasons for using this approach. First, there has been limited conceptualization of negotiation as a process. Therefore the comprehensive literature review presented in the previous two chapters is intended to bridge the concepts from related disciplines under a unified framework. Second, while most previous research of

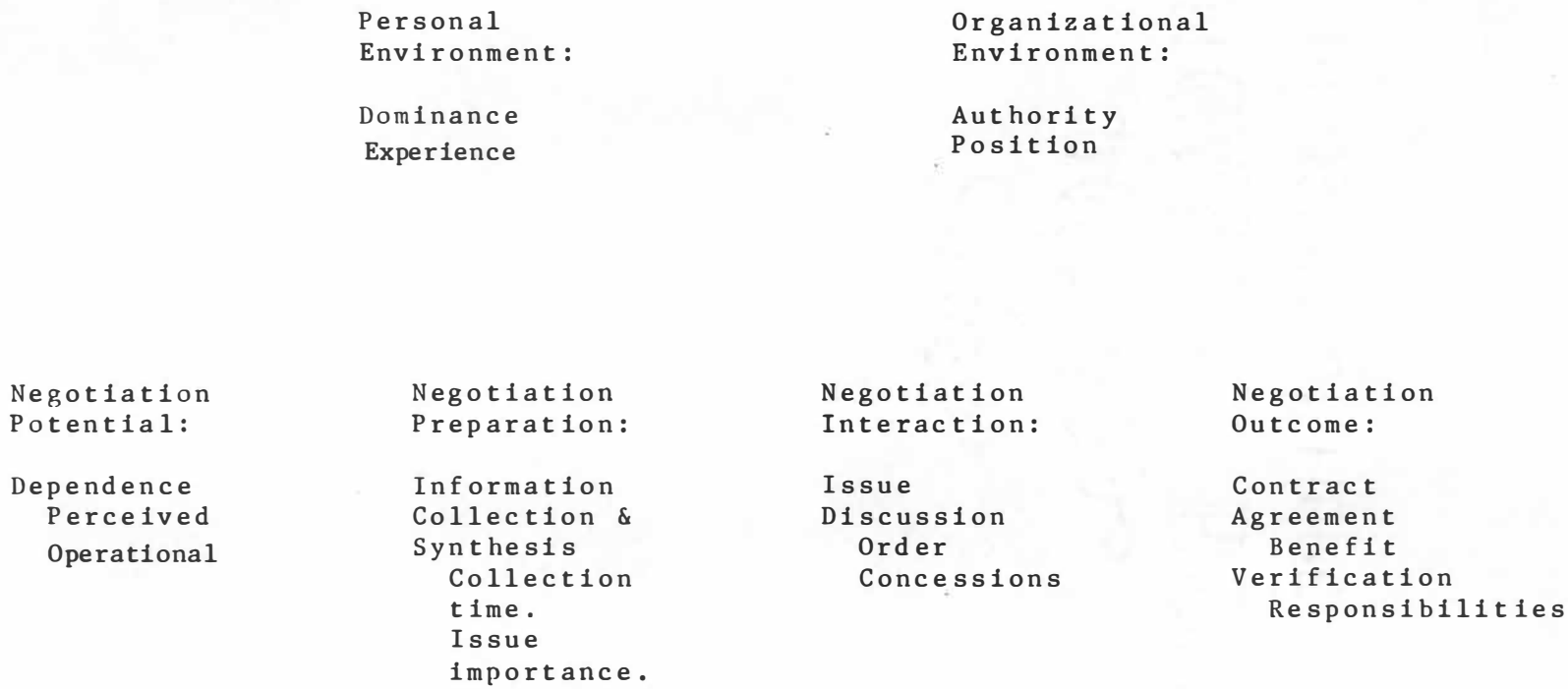


Figure 28. General Construct Areas of the Study.

negotiations has used student subjects in contrived laboratory environments, concern has been raised over the ability to generalize from this type of research setting (Clopton, 1984). The use of a laboratory setting for this study was even less desirable when considering that this conceptual model requires organizational characteristics that cannot be easily simulated in a laboratory environment. Therefore, this study used a mail survey to collect data from actual transportation service contract negotiators in a descriptive manner. This approach was used to increase the external validity of the study.

This chapter presents a detailed assessment of the problem of interest, integrated with the conceptual model to provide the necessary direction for the research. The problem is clearly defined in operational terms by the research questions and hypothesis statements. Characteristics of the sample are introduced and presented in conjunction with the procedure for data collection. The instruments used to collect the data are presented with the results of the corresponding tests for reliability and validity of the perceptual measures used.

I. PROBLEM DEVELOPMENT AND RESEARCH HYPOTHESES

Interest in the process of contract negotiations between shippers and motor carriers is the result of the regulatory reform movement which has occurred at the federal and state levels since 1980. The expanded authority for

motor carriers to integrate their operations and handle both common and contract business under the concept of "dual-operating authority" has substantially increased their amount of contract business. As an example of the change in emphasis Ryder/PIE, a major common carrier which did no contract business prior to July 1, 1980, was receiving 10 percent of its revenue from contract business three years after the law was passed (Allish, 1984). This organization has anticipated a continuation of this trend in the future. Considering the rapid change in contract business, the question of experience in negotiating contracts might be raised. The initial conclusion would imply that carriers with contract authority prior to 1980 would be more experienced at negotiating contracts. It could be inferred from this conclusion that the environment and nature of transportation service contracts has remained the same since 1980. In a recent fictionalized article, Barrett (1985) demonstrated that the elements which influence contract negotiations may have substantially changed with the inclusion of contract terms which are more common to contract negotiations between other types of parties. Barrett (1983) criticized motor carrier contracts negotiated prior to 1980, as being little more than that of the contractual relationship which exists between the shipper and common carrier on the bill of lading. Consideration of the organizational characteristics of motor carriers today

can lead to a better understanding of the approaches which they use to negotiate contracts with shippers.

The negotiation environment for transportation service contracts requires consideration of both parties. In addition to the characteristics of the motor carrier, it is necessary to study the characteristics of the shipper. In a recent study by A. T. Kearney, shipper organizations were determined to be classified into one of three phased groups based on their relative development of physical distribution activities (Farrell, 1981). These three phases represent the growth and development of business activities which are gaining significance as physical distribution functions. The results of this study indicated that industries seemed to differ in their development of physical distribution activities. In another study, Pustay (1982) found that motor carrier contracts were more frequent with large shippers than small shippers. This conclusion leads to the need to include shipper size as an organizational context factor for analysis.

Contracting for transportation service is a major factor in integrating activities across all three physical distribution phases. It seems appropriate to assess the development of contract negotiation activities based on the characteristics of shipper organizations and industries as well as those of the motor carrier. To accomplish these differential grouping factors each participating

organization was classified based on each of the relevent characteristics of their organization, the other party, and the negotiation environment. These grouping factors are included in Figure 29. In addition, it was necessary to establish variable relationships in the negotiation process to more fully understand how the process influences the eventual contract.

Research Questions and Hypotheses

The research questions and hypotheses are separated into two groups. The first group comprises those questions which address the differences between participants of the negotiation process. A second group of research questions were structured to assess the construct relationships which exist within the negotiation process.

Group Difference Questions. Empirical assessment of the characteristics which differentiate between types of motor carriers and classifications of shippers were tested by the following research questions and hypotheses. The research questions tested the relationships of the variables contained in the constructs comprising the contract negotiation process. Assessment of these variable relationships occurred between the organizations at three levels. These levels included the relationships between different types of motor carriers, between shipper organizations from different industries, and between motor

Organizational Size
(Revenues)

Shipper
Carrier

Organizational Experience
(Contract Experience)

Shipper
Carrier

Industry Characteristics

Shipper
Carrier

Bidding Procedure

Shipper
Carrier

Load Requierments
TL vs. LTL

Shipper
Carrier

Participant Differences

Shipper vs. Carrier

Figure 29. Grouping Factors for the Dependent Variables.

carriers and shippers. Each null hypotheses is be presented by its general research question, and specified by the corresponding correlary hypotheses.

Q1. Do organizations with different levels of operating revenues address the same variables when negotiating transportation service contracts?

Ho: There is no significant difference in the use of negotiation variables by different size organizations (based on organizational operating or sales revenue) when negotiating transportation service contracts.

H1: Large motor carriers are more complete in their use of contract negotiation variables than medium and small motor carriers when negotiating with shippers transportation service.

H2: Large shipper organizations are more complete in their use of negotiation variables than medium and small shipper organizations when negotiating with motor carriers for transportation service.

Q2. Do organizations which contracted for motor carrier service prior to July 1, 1980, address the same negotiation variables as those which began contracting for motor carrier service since July 1, 1980?

Ho: Organizations which contracted for motor carrier service prior to deregulation do not approach the contract negotiation process differently than organizations which began contracting for motor carrier service since deregulation.

H3: Motor carriers with contract operating authority prior to deregulation are more complete in their use of contract negotiation variables than motor carriers which had no previous experience with negotiating contracts for transportation service.

H4: Shippers which negotiated motor carrier contracts prior to deregulation are more complete in their use of contract negotiation variables than shippers which began using contract motor carrier service since deregulation.

Q3. Do organizations with different industrial characteristics address the same negotiation variables when negotiating contracts for transportation service?

Ho: There is no significant difference in the use of different negotiation variables by shipper or carrier organizations with different industry characteristics.

H5: Shipper organizations representing different industries will use different negotiation variables when negotiating contracts for motor carrier service.

H6: Motor carrier organizations representing different industries (general freight, specialized carrier groups) will use different negotiation variables when negotiating contracts for motor carrier service.

Q4. Do organizations which participate in contract negotiations which are initiated by a bidding process address negotiation variables differently than those which do not use a pre-established bidding process?

Ho: Shippers which use a bidding procedure do not differ in their use of the variables of the negotiation process from those shippers which do not use a bidding procedure.

H7: Shippers using a bidding process use different negotiation variables than shippers which do not use a bidding process.

Ho: Motor carriers which are subjected to a bidding process do not differ in their use of the negotiation variables from motor carriers are not required to submit bids to a shipper.

H8: Motor carriers which are required to submit bids for transportation contract service use different variables than motor carriers which are not required to submit bids.

Q5. Do organizations contracting for motor carrier service differ in their use of negotiation variables by the specifications of load requirements(ie: less-than-truckload contracts vs. truckload contracts)?

Ho: There is no significant difference in the use negotiation variables between organizations contracting for less-than-truckload service than organizations contracting for truckload service.

H9: Motor carriers contracting for less than truckload service use different negotiation variables than motor carriers contracting for truckload service.

H10: Shippers contracting for less than truckload service use different negotiation variables than shippers contracting for truckload service.

Q6. Do shippers and motor carriers address different issues when negotiating transportation service contracts?

Ho: There is no significant difference in the use of contract negotiation variables by shippers and motor carriers.

H11: Shippers and motor carriers use different contract negotiation variables during transportation contract negotiations.

Process Relationship Questions. In addition to establishing differences between participants in the negotiation process it was necessary to determine the influence which the variables of the process have upon each other. Negotiation is conceptualized as a process which

requires consideration of the nature of the relationship between the two parties as well as the use of preparation and interaction to achieve some type of outcome over the terms of the contract for transportation service. Therefore it was necessary to determine whether each construct area of the process is influenced by the construct area which it follows. To test these relationships the following research questions were established and are presented with the relating hypotheses.

Q1. Does dependence influence the approaches to negotiation preparation by the participants of the negotiation process?

Ho: The approaches used to collect information and prepare for negotiations is not influenced by the operational or perceived dependence of the negotiator's organization upon the other organization.

H1: Organizations which perceive themselves to be more dependent on the other organization will spend more time preparing for the negotiations than organizations which perceive themselves to be less dependent.

H2: Organizations which are operationally dependent on the other organization will spend more time preparing for negotiations than organizations which are less dependent on the other organization.

Ho: Negotiation participants will not perceive their dependence to be significantly different than their operational dependence.

H3: Perceived dependence will be significantly different than operational dependence of organizations which negotiate contracts for transportation service.

Q2. Does negotiation preparation influence the approaches to discussions used by participants of transportation contract negotiations?

Ho: There is no significant influence on the discussion order strategies of the time spent on negotiation preparation by the participants.

H4: Time spent on negotiation preparation will significantly influence the order of issues discussed by the negotiation participants.

Q3: Does the order of issue discussion and the concession rate during discussions influence the benefit gained from the negotiations by the participants?

Ho: There is no significant relationship between the order of issues discussed between the participants, the concession rates of the participants, and the benefit which the each organization gains from the contract.

H5: Issue discussion order and concession rates significantly influence the benefit which is gained from the contract.

Q4: Does the duration of the negotiation process significantly influence the discussions which take place between the participant organizations?

Ho: The time required to reach agreement on the terms of the contract does not significantly influence the discussion order which takes place during interaction between the organizations.

H6: The time required to complete the negotiation process significantly influences the issues which are discussed between the organizations.

H7: The number of meetings significantly

influences the order of the issues which are discussed between the organizations.

Ho: The time required to reach agreement on the terms of the contract does not significantly influence the concession rate of the parties during the discussions of the contract issues.

H8: The time required to reach agreement on the terms of the contract significantly influences the concession rates of the organizations.

H9: The number of meetings significantly influences the concession rates of the organizations.

Q5: Do personal factors of the negotiators influence the negotiation interaction?

Ho: Negotiator experience does not significantly influence the concession rates which occur during the interaction phase of the negotiation process.

H10: Experience of the negotiator will have a significant influence on the number of concessions which are made by the negotiator.

Q6. Does experience of a negotiator influence his approach to dominance over the other party?

Ho: Experience of the negotiator does not significantly influence the dominance which he uses over the other party.

H11: Experienced negotiators will use dominance as a method of controlling the other party more than inexperienced negotiators.

Q7. Does the organization influence the amount of preparation which is necessary for negotiations?

Ho: There is no significant relationship between the number of organizational members which participate in the preparations for negotiations and the amount of time which is necessary to prepare for the interaction phase.

H12: The number of participants significantly influences the amount of time spent by an organization preparing for the interaction phase.

Q8: Does the position level of the participants influence the concession rates of the negotiators during the interaction phase?

Ho: The organizational positions of the negotiation participants does not significantly influence the concession rates of the negotiators during the interaction phase.

H13: The position level of the participants significantly influences the concession rates which are necessary to achieve an outcome.

The results of these hypotheses provide additional understanding into the characteristics of the negotiation participants as well as the use of the negotiation process. To fully test these hypotheses it was necessary to develop a sample of shippers and motor carriers which have participated in the contract negotiation process and could lend insight into its implementation.

II. SAMPLE CHARACTERISTICS

Selection of the sources for the sample required consideration of both qualitative factors as well as quantitative factors (sample size). The most important qualitative factor for consideration involved the topic of the research. Research of contract negotiations between shippers and motor carriers requires the request of information which many firms may be unwilling to freely offer. This may be for two reasons. First, some of the

information may be perceived to involve the strategies used during the negotiation process. These strategies may be interpreted to be very sensitive to their competitive position and therefore not appropriate for research purposes. Second, the parties may initially wish to withhold information about the personal perceptions of the other party. This could be of substantial importance to firms which intend to maintain a continuing relationship with the other party. Resolution of this problem required a common base of respect and support from which concerns of confidentiality were disposed. Concerns of this nature reduced through the sponsored support of the University of Tennessee.

Motor carriers were selected from the index of Trinc's Blue Book of the Trucking Industry (1984). This source provided a listing of "for hire" motor carriers which can be broken down by the relative amount of contract business and commodity specialization characteristics of each carrier. Carrier commodity classifications were based on the following categories:

General Commodities - Transcontinental
General Commodities - Regional
Specialized Commodities - Agricultural Products
Specialized Commodities - Building Products
Specialized Commodities - Household Goods Products
Specialized Commodities - Motor Vehicle Products
Specialized Commodities - Petroleum Products
Specialized Commodities - Refrigerated Products
Specialized Commodities - Other Commodities

Shippers were selected from the membership roster of the Council of Logistics Management, formerly the National Council of Physical Distribution Management. Use of the CLM membership roster helped the quality of the study in two ways. First, it offered the ability to select shipper organizations by their general product offerings. The product classifications from this listing includes the following general product categories:

Appliances
Automotive and Transport Equipment
Building Materials/Lumber Products
Chemicals and Plastics
Clothing and Textiles
Computer Hardware
Construction, Farm and Garden Equipment
Department Store and/or General Merchandise
Electronics and Related Instruments
Electrical Machinery
Food and Beverage
Furniture
Hardware
Machine Tools and Machinery
Metal Products
Mining and Minerals
Office Equipment and Supplies
Paper and Related Products
Petroleum and Petrochemicals
Pharmaceuticals, Drug, and Toilet Products
Rubber Products and Related Goods

The choice of the categories allows the opportunity to match general carrier classes with general shipper classes which use the same type of transportation service. As an example, this type of data might be appropriate in future studies to match the responses from the refrigerated carrier group with those from the food and beverage shipper group.

In addition CLM is known for its strong practitioner support of academic and research activities in physical distribution management functions. This type of support was very evident as the response rate to the survey from CLM members was twice that of carrier representatives.

Since the analysis was intended to assess the characteristics of subgroups as well as the major groups of shippers and motor carriers it was necessary to classify the groups by organizational variables as well as their industry structure characteristics. Motor carriers were classified by their operating revenues (an indication of their ICC classification), and the amount of time which they have been active in the contract motor carrier business.

Each contract situation was used as a classification breakdown, to differentiate between contracts which resulted from negotiations evolving out of a bidding process, and those which the participants did not use a bidding procedure. Another issue addressed the consideration of truckload movements or less than truckload movements. These differences provided the foundation for sample selection of a broad range of motor carrier participants.

Shippers were also classified by their size and experience at negotiating contracts for transportation service, in addition to their industry classification. Size was determined by their 1984 sales figures. Experience was classified by the number of years that the company has used

contract motor carrier service. Industry classification was determined by their response to a group of general commodity classifications. The commodity classifications were initially controlled by the selection of participants through the CLM membership roster. This breakdown allowed the exclusion of academic, carrier, and consultant members of CLM. These classification factors provided the appropriate groupings for analysis of contract negotiation variables for the organizations of interest.

Sampling Procedure

The sampling procedure occurred in two stages. First, sixteen case study interviews were conducted with eighteen shipper and four motor carrier representatives. The case studies were conducted in the Knoxville, Tennessee area, using participants from the Logistics and Transportation Executive-in-Residence program, the Executive Development Program for Distribution Managers (programs sponsored by the University of Tennessee), and the local business community. This approach minimized the cost of the personal interviews while including many organizations which are respected for their logistics operations as well as small firms which represent the other extreme in the contract negotiation environment. A list of the case study participants and their respective employers,is provided in Figure 30.

There were three purposes of the case studies. First, they were used to test the concepts which evolved from the

Shipper Participants:	
1. Kirk Leighton	Campbell Soup Co.
2. Paul Maxwell	Jack Daniels Distillery
3. Mark Ponton	Pepsi Cola Bottling
4. James Carter	Lubrizol Corp.
5. Bruce Pershan	Lever Bros.
6. Leon Bradix	American Cynamid
7. Steve Jander	Campbell Soup Co.
8. Gary Peterson	Pillsbury Company
9. Ralph Mungle	Vlassic Foods
10. Chuck Brittian	GTE Service Corp.
11. Jess Akins	Ashland Chemical
12. Jay Galligan	Quaker Oats Company
13. Jerry Shelton	Val Agri, Inc.
14. Chris Proctor	Northern Telecom
15. Clifford Lynch	Quaker Oats Company
16. Al Daveau	Bristol Myers
17. Bob Drew	Bike Athletic
18. Jack Barry	GTE Service Corp.
Carrier Participants:	
1. Paul Green	Roadway Express
2. Richard Maples	Averitt Express
3. Roy Byrd	Tennessee Truck Lines
4. Dave Peterson	Highway Transportation
5. Bob Gaither	Yellow Freight

Figure 30. Case Study Participants.

literature review and are represented in the conceptual model of the negotiation process. Second, the general variables and measures were assessed to determine their applicability and feasibility of measurement. This is important when considering issues which may be very sensitive to the participant organizations. Last, some participants were asked to complete the proposed questionnaire and comment on the measures included in the instrument. The results of this pretest were used for modification of the questionnaires prior to their final development.

Based on the results of the case studies, a mail survey was conducted from a national sample of shippers and motor carriers. The sample was a selective stratified sample based on the size and industry classification of the participants. Stratified sampling was appropriate in this situation since the intent of this study was to classify the organizations of interest. In addition, this approach to sample selection should have maximized the quality of the results and at the same time minimized the cost of the study (Sudman, 1983).

It should be noted that the sample was <u>not</u> intended to create specific contractual relationships between the participating shippers and motor carriers in the study. There are two major reasons for this strategy. First, the requirement of the dyadic approach would have limited the

response rate in the mail survey. Second, the analysis of group differences would not require the establishment of specific contractual relationships. Finally, the process evaluation could benefit from dyadic analysis, but the increased benefit to the process evaluation would most probably have limited the required breadth of the group differentiation analysis.

Another important factor of consideration involved the individual which received the questionnaire. Motor carrier questionnaires were addressed to the chief operating officer of the organization. The cover letter requested that the questionnaire be forwarded to the chief negotiator of the contract most recently negotiated with a shipper. Using this approach, the recipient of the questionnaire was aware that it had been forwarded from a superior and therefore might have been more likely to comply and complete it expeditiously.

Since the shipper organizations were selected from the membership roster of the Council of Logistics Management, they were contacted through their CLM members. This strategy provided the incentive for the membership to forward the questionnaire to the chief negotiator responsible for negotiating the most recent contract with a motor carrier. Use of this approach decreased the negative reaction to the topic of the questionnaire and increased the response rate of the study. Finally, it is important to

consider that each respondant was asked to react to questions which involve activities which he may perform on a daily basis. This should have also increased the response rate.

A period of two months was allotted for data collection, following much of the prescribed approach by Dillman's Total Design Method (Dillman, 1978). During this period four mailings were conducted. The initial mailing was sent on Friday August 9, 1985 which included a personalized letter of introduction from Professor C. John Langley Jr. of the University of Tennessee to each organization selected for the study. This letter was used as a way of introducing the researcher to each organization through a representative more highly recognized in those industries. A second mailing was completed on Thursday August 22, 1985 which included a personalized cover letter from the researcher, the questionnaire, and an envelop with pre-paid return postage. Third, a follow-up postcard was mailed on Tuesday September 10, 1985 as a reminder of the importance of each response to the study. Finally, all organizations which had not responded by returning the completed questionnaire or indicating that they do not participate in transportation service contracts were issued another cover letter, questionnaire and return envelope on Friday September 27, 1985. Four weeks were then allowed for responses to be returned and coding of the data to take

place. Computer analysis of the data began during the first week of November, 1985.

The survey was mailed to 1033 shipper and carrier representatives. Selection of the initial participants was carefully controlled to insure that no organization was represented by more than one representative. Also, shipper representatives that were selected from the CLM membership roster were screened to select the highest ranking organizational member possible. As the responses were returned, those organizations which indicated that they did not and have not participated in any motor carrier contracts were subtracted from the population of the study. After nine weeks of collecting data which spanned from August 22, 1985, the date of the initial mailing through October 23, 1985, responses were discountiued. A total of 366 usable questionnaires were received with 117 organizations indicating that they have had no experience negotiating transportation service contracts. This left a response rate of 40% (366/916) overall. In addition, the shipper response rate was 51 percent (262/515), while the motor carrier rate reached 25 percent (103/401).

The response rates from both the shipper and motor carrier groups was large enough (in most cases) to yield subgroup samples of 20-50 responses as specified by Sudman (1983). The major exception to this was the inclusion of enough participants in each of the industry classifications

for both shippers and motor carriers which had 22 and 8 groups respectively. While this is of consideration when performing statistical analysis of the data, it should be noted that the percentage of industry participation was representative of the actual industry breakdowns. More stringent statistical standards were used evaluate differences between industry groups. This helps to establish the generalizability of the results of this study (See Tables 2 & 3).

Participant responses were also classified by the time period in which each response was received. These time periods were classified into three groups. The first group was the responses received prior to the mailing of the postcard. A second group was the responses received after the mailing of the postcard but prior to the second mailing of the questionnaire. The third group was the responses received and accepted after the second mailing of the questionnaire. Discriminant analysis was performed on these response categories to establish the bias in the results that might be distinct between those that responded and those that chose not to respond. These results (presented in Table 4) indicate significant differences over the responses to the personal and organizational factors. The tests for equality of the covariance matrices does detract from complete statistical confidence in these results. Analysis of each of the variables which discriminated by

Table 2. An Assessment of Percentage Comparisons of Industry and Commodity Classifications Between Total CLM Membership and Study Results.

Industry Classification	CLM Percentage	Study Percentage
Appliances	1.8	1.1
Automotive and Transport Equipment	5.3	4.9
Building Materials	2.2	3.6
Chemicals and Plastics	10.7	9.1
Clothing and Textiles	2.2	3.3
Computer Hardware and Equipment	3.8	1.4
Construction, Farm and Garden Equipment	.9	.8
Department Store and/or General Merchandise	5.3	8.2
Electronics and Related Instruments	3.9	5.5
Electrical Machinery	1.6	1.6
Food and Beverage	21.8	18.4
Furniture	.8	1.4
Hardware	.8	1.1
Machine Tools and Machinery	.8	1.9
Metal Products	2.4	4.9
Mining and Minerals	.8	1.1
Office Equipment and Supplies	1.5	1.1
Paper and Related Products	4.1	5.8
Petroleum and Petrochemicals	1.2	1.6
Pharmaceuticals, Drug and Toilet Products	10.5	5.5
Rubber Products and Related Goods	.8	1.1
Other Products	16.8	12.9

Table 3. An Assessment of Percentage Comparisons of Motor Carrier Classifications Between Trinc's Blue Book Listings* and Study Results.

Motor Carrier Classifications	Trinc's Percentage	Study Percentage
General Commodities - Transcontinental	3.0	21.0
General Commodities - Regional	33.5	38.0
Specialized Commodities - Agricultural	4.6	3.0
Specialized Commodities - Building Materials	5.7	7.0
Specialized Commodities - Motor Vehicles	1.5	2.0
Specialized Commodities - Petroleum Products	6.0	6.0
Specialized Commodities - Refrigerated Products	6.0	11.0
Specialized Commodities - Other Products	38.5	12.0

* Dunn and Bradstreet. Trinc's Blue Book of the Trucking Industry, (1984).

Table 4. Discriminant Analysis of Participants by Response Period.

	Function	Chi-squared	D.F.	Significance	Test of Group Convariance Matrix Equivalence F	Significance	Confusion Matrix Prediction Percentage
Personal	1	13.600	4	.009[a]	1.630	.134	-
Environment	2	.719	1	.397	-	-	-
Organizational	1	11.764	2	.003[a]	1.198	.302	-
Environment	-	-	-	-	-	-	-
Negotiation	1	12.951	12	.373	1.402	.044	-
Potential	2	.733	5	.981	-	-	-
Negotiation	1	9.135	8	.331	5.799	.001	-
Preparation	2	.727	3	.867	-	-	-
Negotiation	1	5.224	8	.733	1.265	.190	-
Interaction	2	.585	3	.900	-	-	-
Negotiation	1	4.743	6	.577	61.716	.001	-
Outcome	2	.238	2	.887	-	-	-

Table 4. (Continued)

	Function	Chi-squared	D.F.	Significance	Test of Group Convariance Matrix Equivalence F	Significance	Confusion Matrix Prediction Percentage
Temporal	1	1.818	6	.936	3.090	.001	-
Dimension	2	.120	2	.942	-	-	-

[a]Use of stepwise analysis.

response categories indicates that personality factors and participant titles were the distinguishing factors. This may indicate that personality characteristics such as the perception of success of the negotiations by the negotiator and the level of optimism of the negotiator toward the other negotiator influenced their propensity to respond to the questionnaire in a timely manner. The title of the negotiator and the title of the decision maker also may have had a significant influence (See Table 5).

III. INSTRUMENTS FOR DATA COLLECTION

Data collection required the use of three instruments. These instruments allowed the specialization of information collection from both shippers and motor carriers as well as the differences in the two studies. The first instrument contained a series of open-ended questions which were used during the case study interviews of shippers and motor carriers (See Appendix A). The instrument was presented in three parts. It first allowed the negotiator to address the negotiation process as he perceived it to take place. This included both the contract variables as well as the behavioral variables. Second, a series of questions were asked which pertain specifically to the process model, highlighting the variable issues which were not addressed in the response to the first question. Third, the negotiator was presented with a copy of the conceptual model and asked to comment on the appropriateness of the process as

Table 5. Discriminant Analysis of Participant Groups: Correlations Between Dependent and Canonical Variables by Response Group.

Characteristics	Correlations with the Canonical Variables
Personal Environment	
Negotiator Experience	.4023
Optimism - Self	.6398
Control - Self	.6376
Friendliness - Self	.5969
Strength - Self	.6380
Dominance - Self	.3830
Success - Self	.7415
Organizational Environment	
Number of Discussion Participants	-.2779
Number of Preparation Participants	-.2055
Title of the Other Negotiator	-.5338
Title of the Other Decisionmaker	-.6689
Title of the Negotiator	-.5902
Title of the Decisionmaker	-.6414

presented based on his specific application. Finally, six negotiators (three shipper and three motor carrier) were asked to respond to a copy of the appropriate survey questionnaire with the intent of gaining responses to specific variables of interest as well as assessing the quality and likely response factors of the questions and scales contained in the instrument.

This approach attempted to provide structure to the data collection process and attempted to address the initial requirements for purification of the measures as established by Churchill (1979). The pretest allowed a general assessment of the domain of each construct. However, since the pretest used personal interviews and therefore had a very small number of respondents, the purification and analysis of each measure was only able to contribute to the content validity of the instruments.

Two instruments were also developed for the mail survey which collected data from the appropriate shippers and motor carriers in the study (See Appendices B and C). These instruments, which include their appropriate cover letters, contain questions and scales intended to elicit factual, behavioral and attitude data (Sudman and Bradburn, 1982) at the nominal, ordinal, ordinal-interval, and ratio levels. Nominal data primarily included factual questions about group characteristics (industry classifications, process approaches), and contract issue considerations. These

questions are on pages 2 and 5 of the respective questionnaires. Ordinal data applications include questions which address group position factors (revenue levels, experience levels, etc. on page 2), negotiator positions within the organizations (page 3), and contract issue classification (pages 4 and 5). Ordinal-interval data was classified as the use of traditional ordinal scales which are constructed with response categories represented by numbers. These scales, on page 6, use Semantic Differential (Osgood, Suci, and Tannenbaum, 1957) and Likert (1932) scaling techniques. The bipolar adjectives used in the Semantic Differential scales were pretested in scales used for psychological research (Friedman, Johnson, and Fode, 1964). While scaling applications of this type can not classify these scales as interval scales, they can be considered as a cross between ordinal and interval scales and therefore are appropriate for parametric statistical analysis (Labovitz, 1970). Finally, the remainder of the questions on pages 2 and 3 are structured to collect ratio scale data using factual information about the participants and their respective organizations.

Conceptually each questionnaire contained five types of questions. Those types of questions were group questions, personal and organizational questions, process questions, contract questions, and perceptual questions. A general evaluation of the responses indicate some interesting

findings from each of the question catagories. The group questions indicate that the majority of negotiation situations include just two parties reaching agreement on written contracts which range in duration from six months to five years. Most shipper firms used some type of bidding process to initially evaluate their carrier choices. From a commodity industry standpoint firms in the food and beverage industry were more likely to participate in the study than other industries. Motor carrier firms seemed to have more experience negotiating contracts for motor carrier service than shipper organizations. Shipment size considerations and motor carrier classifications also were different between shippers and motor carriers. Shipper firms used contracts from LTL agreements more than motor carriers in the study, and shipper firms did not classify motor carriers in the same groups that motor carriers did. This last result could be caused by one of two possible situations. Shippers may not have given the actual Trinc's classification for their corresponding carrier, or the carrier population that they actually negotiated their contracts with may not have corresponded to the sample of motor carriers used in the study.

Personal and organizational questions indicate that carrier organizations use 3 people to prepare for discussions with shippers and use 2 during the acutal meetings. Shipper firms use 2 people for both preparation

and discussions with the carrier. Motor carrier representatives also had more personal experience at negotiating motor carrier contracts than shipper negotiators. The last organizational difference addresses the positions of the partitipants during the negotiations. Motor carrier respondants were more likely to be company vice-presidents while shipper negotiators were more likely to be at the director level. The difference in the positions of the participants might influence the progress during the interaction phase.

Questions concerning the negotiation process showed differences between shippers and motor carriers. Shippers place more importance on the use of external information during the preparation than motor carriers. Carriers however indicated that the duration of the process is longer than shipper respondants. Finally, both shippers and motor carriers found it difficult to respond to question #12 which addressed the number of intertype competitors in the market.

Rates and service levels were indicated to be the major contract issues of concern to both shippers and motor carriers. Shippers however, placed more emphasis on the influence of personal factors on the development of the contract than motor carriers. Both shippers and motor carriers considered the same number of issues during the preparation and discussion phases.

Finally, the measures used to assess perceptions of dependence by the parties did not provide the anticipated results. A reassessment of the specific scales (rating and Likert) show that they do not tap at the same construct. The rating scale assesses the perception of dependence, but the Likert scale askes about the firms ability to meet their distribution objectives through the contract. While these concepts are similar, they are not the same.

Each questionnaire presented in Appendices D & E also contains information on the responses of shippers and motor carriers to each individual question. Listed at each question is the approporiate frequency of responses to each choice, or the response mean and standard deviation for open-ended questions, and the number of participants responding to each question.

Instrument Validation Tests

The questionnaires were also constructed to allow accurate testing of the reliability and validity of the measures. Reliability was tested using Cronbach's Coefficient Alpha (1951) since it has been established as the strongest reliability measurement technique (Nunnally, 1967 and Peter, 1979). The calculation of Cronbach's Coefficient Alpha (1951) was performed using the SPSS-X computerized statistical package (SPSS, 1983). Table 6 presents the results of the reliability calculations of the perceptual measures. The results of the tests of reliability

Table 6. Reliability Analysis Data.

Variable	Mean	Standard Deviation	Item to Total Correlation	Number Cases
Personality - Self - Q39				
Optimism	1.991	1.021	.4570	347
Control	1.930	1.000	.5980	347
Friendliness	1.968	1.081	.5088	347
Strength	1.838	.957	.6318	347
Dominance	1.230	1.063	.4577	347
Success	2.086	.927	.5947	347
Alpha = .7875				
Dependence - Self - Q40 & Q43 & Q9 & Q10				
Dependence Perception Rating Scale	5.318	2.431	-.1918	333
Dependence Perception Likert Scale	2.228	.906	.1557	333
Operational Dependence Freightbill Percentage	43.276	34.451	.7882	333
Operational Dependence Freight Tonnage Percentage	47.842	35.430	.7855	333
Alpha = .6012				
Dependence - Other - Q41 & Q42 & Q11 & Q12				
Dependence Perception Rating Scale	5.106	2.358	.0471	151
Dependence Perception Likert Scale	1.788	.708	-.0275	151
Operational Dependence Horizontal Competition	10.423	16.399	.5319	151
Operational Dependence Intertype Competition	8.861	16.475	.5073	151
Alpha = .4464				
Concession Assessment - Q44 & Q44A				
Concession Perception	3.506	.839	.4377	332
Concession Differential	1.144	1.684	.4377	332
Alpha = .5178				

of the measures indicates that differences exist on the measures used to test personality and dependence. This result is evident on both the alpha values as well as the item to total correlations for each variable. The interpretation leads to the conclusion that for the personality measures, the participants responded in a consistant manner. A much greater difference was evident between the measures of perceived dependence and operational dependence. The respondants provided more consistant responses to the operational measures than the perceived dependence measures. This is substantiated by the item-to-total correlations of these measures. The poor reliability of the perceived measures may indicate that the Likert scales and rating scales are measuring different concepts. One last conclusion from the reliability of the measures indicates there was somewhat more consistancy in the measures of self perceptions than the measures of the respondants perception of the other party.

In addition to the content validity contributed through the literature review and case studies, construct validity of the measures was assessed using Pearson Product Moment Correlation Coefficients between the alternate measurement methods for the constructs of interest (SPSS-X, 1983). The measures for the perceived dependence constructs were tested using correlations between the Rating scales in questions 40 and 41 and the Likert scales in questions 42 and 43. The

Campbell and Fiske (1959) Multitrait-Multimethod Matrix was used to assess the construct validity of the dependence measures. Table 7 presents the results of these correlation tests which include both perceptual measures (Likert scale and a rating scale) and the operational measures which are the freightbill percentage of the participating organization and the amount of direct or horizontal competition that the other party faces in the market. The results of the tests of convergent and discriminant validity indicate that there is little relationship between operational dependence and perceived dependence, and that the correlations of the perceived measures are not strong enough to substantiate their measurement of the same concept. The validity diagonals of the MTMM Matrix provide minimal support for the convergent validity and the opposing correlations from the validity diagonals also do not allow establishment of discriminant validity.

The measure of the perception of concession rates by the other party was tested by correlating the question 44 with the difference between the concession rates in questions 36A-37A. The correlation coefficient for this assessment was -.4377. While this result would normally indicate a negative correlation between the perception of concessions and the derived difference in actual concessions, the difference is attributed to the construction of the perceptual scale and the calculation of

Table 7. Multitrait-Multimethod Matrix for Validation of the Dependence Perception Measures.

		Rating Scale		Likert Scale		Operational Measure	
		Self Dependence	Other Party Dependence	Self Dependence	Other Party Dependence	Self Dependence[a]	Other Party Dependence[b]
Rating Scale	Self Dependence	1.0000 (.001)					
	Other Party Dependence	.4816 (.001)	1.0000 (.001)				
Likert Scale	Self Dependence	.4692 (.001)	.3469 (.001)	1.0000 (.001)			
	Other Party Dependence	.2021 (.001)	.4065 (.001)	.3401 (.001)	1.0000 (.001)		
Operational Measure	Self Dependence[a]	.1544 (.002)	.1547 (.002)	.1556 (.002)	.1749 (.001)	1.0000 (.001)	
	Other Party Dependence[b]	-.1829 (.001)	-.0704 (.127)	-.0081 (.448)	.0540 (.191)	-.0656 (.146)	1.0000 (.001)

( ) Significance values for Pearson Correlation Coefficients.

a The operational measure for self dependence is freightbill percentage

b The operational measure for other party dependence is the number of other motor carriers or shippers competing in the traffic lane.

the derived difference. With this consideration the correlation can be interpreted to indicate a slight relationship between the perceived measure and the derived measure.

Finally, the personality measure was assessed using correlation coefficients to determine the level of construct validity. Each variable was assessed by the self perceptions of the respondant and the perceptions of the other party by the respondant. The matrix presented in Table 8, indicates limited correlation between the individual personality items for both the "self" measure and the "other" measure. . This indicates that the participants were able to differentiate between individual personality characteristics. Correlation analysis was also performed using correlations between individual variables and "derived" total scores for the variables considered. The decision for the total score combinations was based on the direction of each individual scale. Table 9 presents these scores and substantiates the anticipated differences in the items of the scale between optimism, control and friendliness, and strength, dominance, and success.

The foundation established through these measures helps to provide insight into the quality of the information presented. In addition the results of the reliability and validity tests on the dependence construct indicates that dependence relationships between motor carriers and shippers

Table 8. Correlation Matrix of Self-Personality Measures

	Self					
	Optimism	Control	Friendliness	Strength	Dominance	Success
Optimism	1.0000 (.000)					
Control	.3812 (.000)	1.0000 (.000)				
Friendliness	.3992 (.000)	.4984 (.000)	1.0000 (.000)			
Strength	.3280 (.000)	.4804 (.000)	.3617 (.000)	1.0000 (.000)		
Dominance	.2186 (.000)	.3172 (.000)	.1935 (.000)	.5300 (.000)	1.0000 (.000)	
Success	.3468 (.000)	.4233 (.000)	.4091 (.000)	.5171 (.000)	.4134 (.000)	1.0000 (.000)

( ) Significance value for Pearson Correlation Coefficients.

Table 9. Correlation Coefficients of Independent and Derived Personality (Self) Measures.

Variables	Derived Measure #1 [a] Correlation	Derived Measure #2 [b] Correlation
Optimism	.7489 (.000)	.3624 (.000)
Control	.7922 (.000)	.4970 (.000)
Friendliness	.8099 (.000)	.3872 (.000)
Strength	.4950 (.000)	.8375 (.000)
Dominance	.3078 (.000)	.8191 (.000)
Success	.4979 (.000)	.7768 (.000)

[a] Derived Measure is the total score for Optimism + Control + Friendliness.

[b] Derived Measure is the total score for Strength + Dominance + Success.

( ) Significance values for Pearson Correlation Coefficients.

exist in different forms including operational dependence (which assesses an issue which is close in relationship to actual dependence) and perceived dependence which exists in the minds of the negotiators and could influence the outcome of the negotiations separately from the operational assessment.

CHAPTER V

DATA ANALYSIS PROCEDURES AND RESULTS

Two purposes were established for the analysis portion of this study. The first was to establish the differentiation of groups which negotiate transportation service contracts to determine if different types of participants differentiate on the variables of the process. Second, it was determined necessary to test the relationships between variables of the process to determine if statistical support is established for the elements of the process.

Discriminant analysis was used to predict group membership of individual observations based on a set of independent variables. These variables comprised the basis for the establishment of a linear function (called a canonical variable) which most accurately represents the groups of interest. Evaluation of these variables allows the discriminant function to determine the variable equation which most accurately represents the data (Marascuilo and Levin, 1983). In this case the variables of the conceptual model were used to establish seven linear functions for each hypothesis, which most accurately represents the classifications of shippers and motor carriers of interest.

Table 10 represents the independent variable groupings of interest (by the item number on the appropriate

Table 10. Group Hypotheses Tests.

Hypothesis # (Participant)	Dependent Variable	Independent Variable Groups (Question #)
Hypothesis #1 (Motor Carrier)	Organizational Size (Sales)	Negotiator Experience Personality Factors (Q8, Q39A - F)
Hypothesis #2 (Shipper)	Organizational Size (Sales)	Number of Organizational Participants
Hypothesis #3 (Motor Carrier)	Contract Experience	Organizational Positions (Q6, Q7, Q19 - Q22)
Hypothesis #4 (Shipper)	Contract Experience	Operational Dependence Perceived Dependence (Q9 - Q12, Q40 - Q43)
Hypothesis #5 (Shipper)	Industry Classification	Negotiation Preparation (Q24 - Q26, Q32A)
Hypothesis #6 (Motor Carrier)	Industry Classification	Negotiation Interaction (Q35A, Q36A, Q37A, Q44 Q44A)
Hypothesis #7 (Shipper)	Bid Process	Negotiation Outcome (Q30, Q31, Q31A)
Hypothesis #8 (Motor Carrier)	Bid Process	Temporal Dimension (Q27 - Q29)
Hypothesis #9 (Motor Carrier)	Shipment Size	
Hypothesis #10 (Shipper)	Shipment Size	
Hypothesis #11	Shipper vs. Motor Carrier	

questionnaire) and the dependent groups established in the hypotheses. These independent variable groupings are distinguished by the general construct areas of the conceptual model. Group #1 includes the experience of the participating negotiator and his perception of his personality contribution during the negotiation activities. The variables in group #2 are the organizational position factors of the negotiators and the final decision makers over the terms of the contract, and the number of participants that participated in the negotiation process. Group #3 consists of those variables which measure the perceived and operational dependence of the negotiation potential phase. Group #4 includes the variables which influence preparation during the negotiation process. These include the hours of manpower in the process and the number of issues addressed in the preparation process. Group #5 is the variables which comprise the interaction phase including the issues discussed and the concessions made. Group #6 addresses the outcome factors resulting from the discussions. Finally, group #7 includes the amount of time that is required for the process to take place from the initial point of consideration of the need to negotiate, to the final agreement between the parties. Each group hypothesis was tested using a discriminant function for each grouping of independent variables creating a total of 77 discriminant functions.

In addition this study attempted to determine variable relationships within the process of negotiations. To accomplish this, the second group of hypotheses were used to test the relationships between the general construct areas. Figure 31 represents the general construct areas with the indication of the relationship test by each corresponding hypothesis. To establish basic variable relationships of the process, regression analysis and correlation analysis was used. The appropriate statistical tests and related construct areas for each hypothesis are included in Table 11.

Variable evaluation must consider the type of data collected in the instruments. It is important to note that the environmental constructs comprise variables which are both perceptual and factual in nature. The behavioral constructs are defined by perceptual variables which require the use of ordinal scales as opposed to interval scales or ratio scales. The type of scales used in data collection can influence the analysis techniques. Multivariate analysis techniques (such as discriminant analysis, regression analysis, and some forms of correlation analysis) assume that the population will be normally distributed on the variables of interest. In this case most of the ordinal scales have been classified as ordinal-interval scales because their construction implies equal appearing intervals between the numerical points.

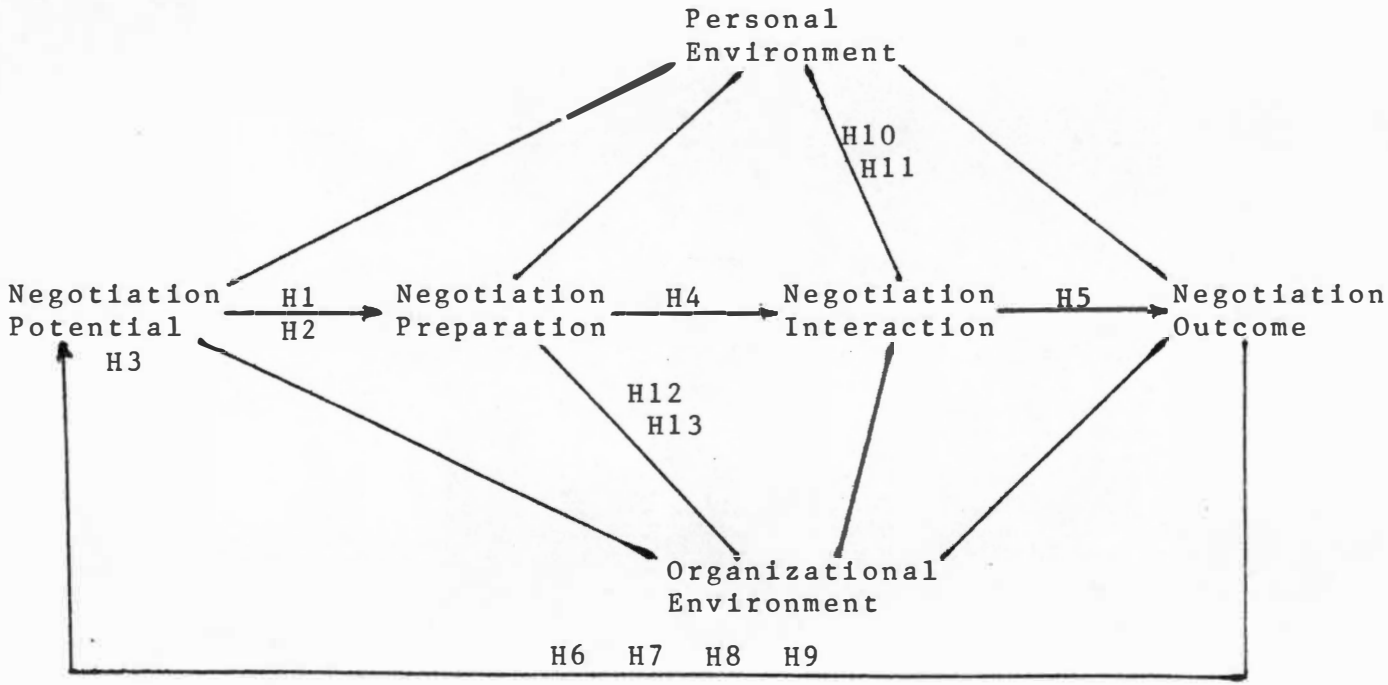


Figure 31. Process Construct Relationships.

Table 11. Process Hypothesis Tests.

Hypothesis #	Construct Areas	Statistical Tests
Hypothesis #1 Hypothesis #2	Dependence - Preparation	Pearson Correlation Coefficient
Hypothesis #3	Perceived Dependence - Operational Dependence	Pearson Correlation Coefficient
Hypothesis #4	Preparation - Discussion	Pearson Correlation Coefficient Regression Analysis
Hypothesis #5	Discussion - Outcome	Regression Analysis
Hypothesis #6 Hypothesis #7 Hypothesis #8 Hypothesis #9	Temporal Constraints - Discussion	Pearson Correlation Coefficient
Hypothesis #10 Hypothesis #11	Personal Factors - Discussion	Pearson Correlation Coefficient
Hypothesis #12	Organizational Factors - Preparation	Pearson Correlation Coefficient
Hypothesis #13	Organizational Factors - Discussion	Pearson Correlation Coefficient Somer's d Coefficient

Each hypothesis was tested using the appropriate multivariate analysis techniques contained in the SPSS-X computer software package. Discriminant analysis helped to determine the group assignment of the participants of the study based on each construct of the model. Regression and correlation analysis was used to determine relationships between variables which are appropriate to consider as elements of the process of negotiations. Also the use of the stepwise procedure for both techniques helped to establish the variables which are most appropriate for each construct of interest.

These analysis techniques were determined to be appropriate only after the literature review had established the conceptual foundation to test the application of the negotiation variables. Application of these statistical analysis techniques helps to understand the negotiation variables which are most relevant to shippers and motor carriers with different organizational and industry characteristics.

I. GROUP DIFFERENTIATION ANALYSIS

Application of discriminant analysis under the constraints established in the conceptual model required that each group hypothesis be tested by each general construct area. It was necessary to perform the analysis at two levels for each discriminant function to insure the quality of the results. First, the significance of the

discriminant function was assessed. Criteria for significance (alpha level) was established at the .05 level. This level was justified through its general acceptance as a basis for evaluation in behavioral research.

After the discriminant function was tested, consideration was given to the equality of the group covariance matrices. This test was only used as guide to evaluate the quality of those functions which had previously been determined to be significant. (The results of the discriminant analysis tests between each hypothesis and each general construct area are included in Appendix F, Tables F-1 through F-11.) Use of the two stage evaluation process was especially important in this case since this research is being conducted in an exploratory framework.

Once the discriminant function was tested, consideration was given to the variables which the function used as discriminating variables. This was performed using multivariate analysis of variance to create a separate discriminant function. Using this function as a basis correlation coefficients were derived to test the relationships between the variables and the discriminant or canonical variable. The correlations which are at the .30 level or higher indicate the variables most accurately represented by the discriminant function. (The interpretation of .30 as acceptable correlation is justified

since this research studies behavioral variables in an exploratory research framework.) Each of the following group hypothesis tests have been analyzed using these evaluation criteria and processes.

Tests of Organizational Size

The first question raised in this study addressed the issue of whether organizational size, as defined by the amount of sales which each firm had in 1984 (the most recent complete year), significantly influenced the variables used in the negotiation process.

Tests of Motor Carrier Organizational Size. Group hypothesis #1 addressed the potential differences which it was hypothesized existed between motor carrier organizations having different sized operations. This issue attempted to understand the differences which motor carriers may possess in the completeness of performance of the variables of the negotiation process, considering that large motor carriers may have more specialized personnel participating in the activities of negotiation and therefore may be more complete in their performance of the negotiation activities than smaller motor carriers. Motor carriers were grouped into three groups from the questionnaire options, combining a and b, and d and e. The results of this analysis are exhibited in Table F-1.

These results indicate that the Personal Environment of

the negotiator, the Organizational Environment, and the Negotiation Potential (the representation of the position of the motor carrier and the shipper in the relationship between the parties) are construct areas on which motor carriers are significantly different. The discriminant function of the Personal Environment is statistically significant at the .039 level. This function is able to correctly classify the participants into their appropriate categories by sales 56% of the time, which is substantially greater than the 33% chance by random assignment to the three groups. Calculation of the correlation coefficients between the variables of the Personal Environment and the discriminant function indicates statistically significant correlations between each of the variables of the Personal Environment and the discriminant function (See Table 12). It should be noted that the dominance variable has the least correlation with the discriminant function of all of the personality variables. This result might indicate that the desire to dominate the other party by the motor carrier negotiator is similar for different sized motor carrier organizations.

Organizational characteristics are also differentiated by the size of the motor carriers. The discriminant function is statistically significant at the .047 level. This function is able to correctly classify participants into the appropriate groups in 52% percent of the cases.

Table 12. Discriminant Analysis of Motor Carrier Groups: Correlations Between Dependent and Canonical Variables by Organizational Size.

Characteristics	Correlations with the Canonical Variable
Personal Environment	
Negotiator Experience	.4677
Optimism - Self	.6697
Control - Self	.5774
Friendliness - Self	.6784
Strength - Self	.6242
Dominance - Self	.3053
Success - Self	.6081
Organizational Environment	
Number of Discussion Participants	-.2022
Number of Preparation Participants	-.1233
Title of the Other Negotiator	-.5070
Title of the Other Decisionmaker	-.5776
Title of the Negotiator	-.5682
Title of the Decisionmaker	-.6797
Negotiation Potential	
Freightbill Percentage	.2302
Tonnage Percentage	.2396
Dependence Perception Rating Scale - Self	.4509
Dependence Perception Rating Scale - Other	.5630
Dependence Perception Likert Scale - Other	.6852
Dependence Perception Likert Scale - Self	.6536

While this function is better than random assignment, its quality is questionable since the test of equality of the covariance matrices is significant. In addition, the variables in Table 12 which had significant correlations with the discriminant function were ordinal level variables. Therefore the title of the participants in the negotiation process may be different in different sized motor carrier organizations, but this can only be substantiated in future research applications.

Motor carrier organizations are also differentiated by the Negotiation Potential variables which assess the nature of the relationship between the motor carrier and the shipper organizations. This function is significant at the .014 level. Assessment of the strength of this function indicates that it can correctly classify motor carriers into their respective groups 60% of the time. This classification rate is still a higher probability than the mere chance of correct classification into one of the three groups. Consideration of the specific variables of Negotiation Potential indicates that the perceptual variables distinguish between motor carrier organizations better than the operational variables (See Table 12). These variables include an operational measure of dependence (the percent of the total operating revenues of the motor carrier which are the result of business with this specific shipper), and two perceptual measures of dependence using

both a rating scale and a Likert scale. Therefore consideration of both operational measures and perceptual measures of dependence may be appropriate in assessing differences between motor carriers over the potential for negotiation activities.

Tests of Shipper Organizational Size. Assessment of shipper organizational size (Group Hypothesis #2) provides significant differences between large shipper firms and smaller ones on the Organizational Environment, Negotiation Potential, and Negotiation Preparation (See Table F-2). The significance of the discriminant function testing the variables of the Organizational Environment is significant at the .05 level and is able to correctly classify firms by their organizational size 45% of the time which is better than the random chance of assignment into one of three groups. The quality of this function should be questioned since the significance of the test for equality of the covariance matrices is significant. Consideration of the correlations of the organizational variables with the discriminant function, indicates that all organizational variables except the number of discussion participants have significant correlations with the discriminant function (See Table 13).

Group differentiation is also established for the Negotiation Potential variables. Statistical significance is established for the discriminant function, which predicts

Table 13. Discriminant Analysis of Shipper Groups: Correlations Between Dependent and Canonical Variables by Organizational Size.

Characteristics	Correlations with the Canonical Variable
Organizational Environment	
Number of Discussion Participants	-.2785
Number of Preparation Participants	-.3391
Title of the Other Negotiator	-.5229
Title of the Other Decisionmaker	-.6391
Title of the Negotiator	-.7173
Title of the Decisionmaker	-.8174
Negotiation Potential	
Freightbill Percentage	.3454
Tonnage Percentage	.3740
Dependence Perception Rating Scale - Self	.5813
Dependence Perception Rating Scale - Other	.5422
Dependence Perception Likert Scale - Other	.6407
Dependence Perception Likert Scale - Self	.5942
Negotiation Preparation	
Total Issues Discussed	.1038
Inside Manhours	.0834
Outside Manhours	.1127
Total Issues Considered	.9971

group membership 48% of the time. This function is not significant on the test of equality of the covariance matrices which helps to support its strength. Assessment of the variables of Negotiation Potential indicates correlation between all measures of dependence and the discriminant function (See Table 13). Stronger correlations are apparent between the discriminant function and the perceptual measures of dependence than the operational measures of dependence. This result is an indication that shipper negotiators in different sized organizations perceive themselves to be more or less dependent than their operational position indicates.

Differences are also significant on the Negotiation Preparation variables of the process. While the discriminant function has a significance level of .016, the equality of the covariance matrices is less than .15. This indicates guarded support for differences between shipper organizations of different sizes on the variables of Negotiation Preparation. This function is able to predict group membership 45% of the time. Assessment of the correlations of the variables of preparation with the discriminant function indicates strong correlation between the total number of issues considered and the function (See Table 13). This result indicates that the number of issues prepared by shippers is of greater difference between

organizations than the amount of time that the organizations spent collecting the data.

Consideration of the differences between both shipper and motor carrier organizations does lead to three general conclusions. Negotiators must be aware that organizational characteristics especially the position of the negotiator and the decision makers do differ by the size of the organization. Second, negotiator perceptions of their dependence on the other organization do differ by the size of the organization. Third, it is important to note that motor carrier organizations seem to be different on the personal and personality characteristics of their negotiators, and shipper organizations seem to be different on the extent of preparation that they do prior to bargaining. These differences lead to the conclusion that organizational size significantly influences the personal, organizational, potential, and preparation factors that shippers and motor carriers use during the negotiation process. Therefore group hypotheses #1 & #2 will be accepted and their corresponding null hypothesis will be rejected.

Organizational Contract Experience

As shippers and motor carriers entered the changed competitive environment created through deregulation, the issue of organizational experience with negotiating transportation service contracts became of interest. This

interest is important to establish the skill that shippers and motor carriers may demonstrate during the negotiation process.

Tests of Motor Carrier Contract Experience. Discriminant analysis was used to determine whether those contract carriers operating prior to 1980 approached the process differently than those which received contract operating authority after deregulation. Table F-3 in Appendix F, presents the results of the analysis of motor carrier responses which indicates that on the negotiation process variables, motor carriers with differing levels of organizational experience are different on the Personal and Organizational Environmental variables.

Assessment of differences in motor carriers with different levels of organizational experience indicates significance on the Personal Environment variables. This discriminant function correctly assigns motor carriers to groups 57% of the time (See Table F-3). While the function is significant, it does not have support from the test of equality of the covariance matrices. Table 14 presents the results of the correlation tests which indicate that all personal and personality variables are correlated with the discriminant function except dominance. This result indicates that motor carrier organizations with different levels of contract experience have negotiators with different Personal Environment characteristics.

Table 14. Discriminant Analysis of Motor Carrier Groups: Correlations Between Dependent and Canonical Variables by Contract Experience.

Characteristics	Correlations with the Canonical Variables
Personal Environment	
Negotiator Experience	.5189
Optimism - Self	.6334
Control - Self	.5689
Friendliness - Self	.6513
Strength - Self	.5974
Dominance - Self	.2952
Success - Self	.5937
Organizational Environment	
Number of Discussion Participants	-.1956
Number of Preparation Participants	-.1197
Title of the Other Negotiator	-.4871
Title of the Other Decisionmaker	-.5641
Title of the Negotiator	-.5774
Title of the Decisionmaker	-.6779

Motor carrier firms are also differentiated on the organizational characteristics of the negotiation process. The discriminant function for the organizational characteristics is significant (.019) in differentiating between motor carriers that have different levels of contracting experience (See Table F-3). While this function does not have strong support on the test of covariance matrices equality, it does accurately predict group membership 40% of the time. The results presented on Table 14 indicate that the differences between motor carrier organizations on these variables is primarily on the position titles of the negotiators and decision makers.

Tests of Shipper Contract Experience. Shipper organizations with differing levels of experience that are doing business under contracts for motor carrier service (Group Hypothesis #4) are differentiated by the personal variables of the shipper negotiators (See Table F-4). This function can correctly classify the personal and personality variables 55% of the time. Again, this function is a better predictor of group membership of the personal variables than the random chance of correct selection into one of three groups. All personal and personality variables are differentiated by the experience level of the motor carrier (See Table 15).

Significant differences are also established between shipper organizations on the influence of temporal factors

Table 15. Discriminant Analysis of Shipper Groups: Correlations Between Dependent and Canonical Variables by Contract Experience.

Characteristics	Correlations with the Canonical Variables
Personal Environment	
Negotiator Experience	-.3875
Optimism - Self	-.6292
Control - Self	-.5610
Friendliness - Self	-.6287
Dominance - Self	-.4086
Success - Self	-.7997
Temporal Dimension	
Number of Face-to-Face Meetings	-.7265
Number of Telephone Conversations	-.7575
Total Weeks of Duration	-.7511

on the negotiation process. The discriminant function testing temporal variables on the experience of shipper organizations correctly assigns participants to groups 55% of the time (See Table F-4). This is better than the random chance of assignment to one of three groups. Analysis of the correlation coefficients between the variables of the temporal dimension and the discriminant function indicate significance on all of the temporal variables (See Table 15).

Several conclusions come from the results of the tests on organizational contract experience. First, those organizations with more experience at negotiating motor carrier contracts could be represented by negotiators with more personal experience at negotiating motor carrier contracts. In addition, negotiator's personal experience may be reflected in his attitude and approach to the other party, and their assessment of the success of their performance during the negotiation process. Differences are also important for negotiators to realize since the position level of the negotiator is influenced by the experience of the organization. Finally, negotiators also must recognize the influence that the number of discussions and duration of the process has on different shipper organizations. These results lead to the conclusion that group hypotheses #3 & #4 be accepted and their corresponding null hypothesis be rejected.

Tests for Industry Differences

Previous results of research of logistics organizations indicates that performance of logistics activities differs by industry (Farrell, 1981). It seemed appropriate to investigate whether negotiation activities differed by shipper industries and motor carrier product classification groups.

Tests of Shipper Industry Differences. Table F-5 presents the results of the test of Hypothesis #5 which addresses the differences between shipper industries, based on product classes. The results using a .01 alpha level, indicate differences on Negotiation Preparation, and Negotiation Outcome by shipper industry. Alpha of .01 was used for this test since 22 industry groups were included requiring additional rigor in the test. Even with the increased rigor of the evaluation of these tests, caution should be noted since each test included 22 groups.

Negotiation Preparation is established as an area which shipper organizations differentiate on the negotiation process. This function has a significance level of .001 and can correctly classify members to groups 24% of the time which is 5 times that of random assignment probability (See Table F-5). This functions significance should be cautioned since the covariance matrices test is significant. Tests of correlations between Negotiation Preparation variables and the discriminant function indicate that the majority of

difference between shipper industries on preparation is due to the total number of issues considered during the preparation phase of the process (See Table 16).

The tests of Negotiation Outcome indicates differences between shipper industries. This discriminant function is significant at the .05 level (.000) and can correctly classify members into groups 25% of the time (Table F-5). Again this function does not show support for the equality of the covariance matrices. Consideration of the correlations between the outcome variables and the discriminant function shows that benefit difference percentage is the major indication of difference between shipper groups for Negotiation Outcome (See Table 16).

Tests of Motor Carrier Classifications. Assessment of the same question for motor carrier classifications yielded no statistically significant results (Hypothesis #6). This indicates that product classifications for motor carrier service do not create any significant differences between motor carriers on the variables of the negotiation process (See Table F-6).

The lack of significant results of the motor carrier tests could partially be attributed to the number of participants in the study and the number of classification categories. Since the sample size used was determined to be acceptable for the general analysis, it should be noted that results of discriminant analysis using as many as 8

Table 16. Discriminant Analysis of Shipper Groups: Correlations Between Dependent and Canonical Variables by Industry.

Characteristics	Correlations with the Canonical Variables
Negotiation Preparation	
Total Manhours	.1049
Inside Manhours	.0840
Outside Manhours	.1082
Total Issues Considered	.9976
Negotiation Outcome	
Benefit Prior to the Agreement (Rate/cwt)	.0752
Benefit After the Agreement (Rate/cwt)	.0352
Benefit Difference Percentage (After/Prior)	.5485

dependent variable groups restricted the number of observations within many of those groups. Therefore the results from these tests should be used as a basis for further research to substantiate the established conclusions.

General conclusions from the tests of industry differences indicates that shipper organizations in different industries are different on the number of issues prepared for bargaining and the percentage difference from that outcome. These results can be important to motor carrier negotiators that are responsible for dealing with shippers from a number of different industries. Support is established for differences between shipper organizations by industry which leads to acceptance of group hypothesis #5. However no significant differences are evident between motor carrier organizations which leads to the decision to reject group hypothesis #6.

Bidding Process Applications

Negotiation activities may take place at the completion of a structured bidding process or they may take place between two parties without the use of a bidding system to bring them together. Analysis was performed to test whether differences in potential applications of the negotiation activities occurs between the bid or nonbid situations for both shippers (Hypothesis #7) and motor carriers (Hypothesis #8).

Tests of Shipper Use of a Bid Process. Shipper results indicate differences in the areas of Negotiation Potential, Negotiation Preparation and Negotiation Interaction (See Table F-7). The results of the test of Negotiation Potential show support for differences between bid and non-bid applications with a significance level of .011. This function's quality is substantiated by classification matrices which indicate that the function can predict group membership 62% of the time, which is better than the random chance of assignment to one of two groups. Correlation tests between the discriminant function and the dependence variables indicates significant relationships for all dependence measures (See Table 17).

The test of Negotiation Preparation indicates differences between bid and non-bid situations for shippers. The discriminant function is significant at the .002 level and can classify participants into groups 61% of the time (See Table F-7). Assessment of the correlations between the preparation variables and the discriminant function shows significant correlation between total issues discussed and the discriminant function (See Table 17).

In the case of bid analysis Negotiation Interaction becomes a significant factor of difference between shippers. Table F-7 indicates that the discriminant function (significant at the .017 level) is able to differentiate between bid and non-bid situations and

Table 17. Discriminant Analysis of Shipper Groups: Correlations Between Dependent and Canonical Variables by the use of a Bid Process.

Characteristics	Correlations with the Canonical Variables
Negotiation Potential	
Freightbill Percentage	.3598
Tonnage Percentage	.3913
Dependence Perception Rating Scale - Self	.5854
Dependence Perception Rating Scale - Other	.5453
Dependence Perception Likert Scale - Other	.6376
Dependence Perception LIkert Scale - Self	.6025
Negotiation Preparation	
Total Manhours	.1040
Inside Manhours	.0827
Outside Manhours	.1148
Total Issues Considered	.9938
Negotiation Interaction	
Total Issues Discussed	.5382
Total Concessions - Other	.2784
Total Concessions - Self	.1816
Concession Perception	.8590

correctly classify group membership 65% of the time. Consideration of the correlations between the variables of Negotiation Interaction and the discriminant function indicate that the total number of issues discussed and the perception of concessions by the shipper were the variables which distinguish between bid and non-bid situations.

Tests of Motor Carrier Participation in a Bid Process. Analysis of motor carrier responses to the issue of negotiation under bidding and non-bidding situations indicates that motor carriers do not differentiate themselves on the negotiation activities under those circumstances. Table F-8 presents the results of this analysis.

Consideration of the bidding situation leads to several conclusions from this analysis. Negotiation Potential variables are different for bid and non-bid situations expecially on the perceived measures. The major variable is consideration for Negotiation Preparation is the number of issues considered during the preparation phase. Finally, the total issues discussed and the perception of concessions by the party are different between shippers using different bidding and non bidding strategies. Results of the tests of bidding applications leads to the acceptance of group hypothesis #7 and the rejection of group hypothesis #8.

Analysis by Type of Service

It was hypothesized that there are differences between the approaches to the negotiation process by the type of shipment.

Tests of Motor Carrier Load Size. Hypothesis #9 considers whether motor carriers that provide truckload service will approach the negotiation activities differently that motor carriers that provide less-than-truckload service. The results of this test indicate that there are significant differences between motor carriers in the areas of Negotiation Potential, and Negotiation Interaction (See Table 6-I). Assessment of the function for Negotiation Potential shows statistical significance (.001) with a corresponding assessment of the equality test for the covariance matrices. The classification rate for this function is 62% which is substantially better than the normal probability of assignment to one of three groups. In this case all of the perceived dependence measures are correlated with the discriminant function while the operational measures are not highly correlated (See Table 18).

The test of Negotiation Interaction is also significant at the .05 level (.010) (See Table F-9). Assessment of the confusion matrices in this case indicates that the discriminant function can correctly classify group

Table 18. Discriminant Analysis of Motor Carrier Groups: Correlations Between Dependent and Canonical Variables by Shipment Size.

Characteristics	Correlations with the Canonical Variables
Negotiation Potential	
Freightbill Percentage	.2261
Tonnage Percentage	.2414
Dependence Perception Rating Scale - Self	.4672
Dependence Perception Rating Scale - Other	.5776
Dependence Perception Likert Scale - Other	.6494
Dependence Perception Likert Scale - Self	.6386
Negotiation Interaction	
Total Issues Discussed	.6348
Total Concessions - Other	.2370
Total Concessions - Self	.2362
Concession Perception	.6804

membership 70% of the time which is twice that of random assignment to one of three groups. Consideration of the variables which are correlated with this discriminant function indicates that the total number of issues discussed and the concession perception are predictors of differences between motor carriers doing truckload and less-than-truckload business.

Tests of Shipper Load Size. Shipper application of the negotiation process between truckload and less-than-truckload negotiation situations also indicates differences between shippers in the areas of the Organizational Environment, Negotiation Potential and Negotiation Outcome (See Table F-10). The discriminant function for the Organizational Environment is significant at the .05 level (.032). In this case the classification rate is 57%, which is better than random chance of assignment into one of three groups. Assessment of the correlation coefficients between the discriminant function and the variables of the Organizational Environment indicate substantial differentiation between the groups on the position titles of the participants (See Table 19). Less support was found for the number of particpants influencing the differences between shipper groups.

Dependence measures in Negotiation Potential also distinguish between shipper organizations on shipment size. The discriminant function has a significance of .056, and

Table 19. Discriminant Analysis of Shipper Groups: Correlations Between Dependent and Canonical Variables by Shipment Size.

Characteristics	Correlations with the Canonical Variables
Organizational Environment	
Number of Discussion Participants	-.2778
Number of Preparation Participants	-.3344
Title of the Other Negotiator	-.5356
Title of the Other Decisionmaker	-.6380
Title of the Negotiator	-.7323
Title of the Decisionmaker	-.8239
Negotiation Potential	
Freightbill Percentage	.3550
Tonnage Percentage	.3864
Dependence Perception Rating Scale - Self	.5849
Dependence Perception Rating Scale - Other	.5439
Dependence Perception Likert Scale - Other	.6331
Dependence Perception Likert Scale - Self	.6025
Negotiation Outcome	
Benefit Prior to the Agreement	.0815
Benefit After the Agreement	.0385
Benefit Difference Percentage	.5715

can accurately classify participants into groups 53% of the time (See Table F-10). Consideration of the correlations between the discriminant function and the dependence variables indicates that all measures of dependence can be used to differentiate between the shippers using LTL and TL contracts (See Table 19).

Results of the test of Negotiation Outcome indicate statistical significance between shipment sizes on different shippers. This function has a significance level of .042 and can accurately classify participants into groups 59% of the time (See Table F-10). Assessment of the correlations between the variables of Negotiation Outcome and the discriminant function indicate that benefit difference percentage is the variable which distinguishes between shipper groups on shipment size (See Table 19).

A general assessment of the shipment size tests indicates that motor carrier organizations are differentiated by dependence perception of the negotiators, the number of issues discussed, and the perception of concessions made by the motor carrier negotiator. Shipper organizations are differentiated by the positions of the participants, the perceptions of dependence by the parties, and the benefit that the shipper derives from the contract. These results lead to the acceptance of group hypotheses #9 and #10.

Shipper vs. Motor Carrier Test

The final group difference test considered was the comparison of shippers and motor carriers over the variables comprising the negotiation process. Statistically significant differences are indicated between shippers and motor carriers in all areas except Negotiation Preparation and the Temporal Dimension (See Table 6-K). The test of the Personal Environment is statistically significant at the .05 level (.000) and can correctly classify participants into the correct shipper and motor carrier groups 73% of the time. Assessment of the correlation coefficients between the variables of the Personal Environment and the discriminant function indicate that all of the personal and personality variables can distinguish between shipper and motor carrier negotiators.

Assessment of the discriminant function testing the Organizational Environment variables indicates significance (.000) and the ability of the function to correctly assign participants to their respective groups 92% of the time (See Table F-11). This test like previous ones of the Organizational Environment shows correlations between the positions of the participants but not the number of participants (See Table 20).

Support is shown for differences between shippers and motor carriers over the elements of Negotiation Potential. The discriminant function (with Significance of .016) has a

Table 20. Discriminant Analysis of Participant Groups: Correlations Between Dependent and Canonical Variables by Shippers and Motor Carriers.

Characteristics	Correlations with the Canonical Variables
Personal Environment	
Negotiator Experience	.4068
Optimism - Self	.6421
Control - Self	.6398
Friendliness - Self	.6020
Strength - Self	.6393
Dominance - Self	.3895
Success - Self	.7504
Organizational Environment	
Number of Discussion Participants	-.2539
Number of Preparation Participants	-.1900
Title of the Other Negotiator	-.4985
Title of the Other Decisionmaker	-.6203
Title of the Negotiator	-.6643
Title of the Decisionmaker	-.7731
Negotiation Potential	
Freightbill Percentage	.3239
Tonnage Percentage	.3515
Dependence Perception Rating Scale - Self	.5516
Dependence Perception Rating Scale - Other	.5552
Dependence Perception Likert Scale - Other	.6430
Dependence Perception Likert Scale - Self	.6138
Negotiation Interaction	
Total Issues Discussed	.6672
Total Concessions - Other	.3195
Total Concessions - Self	.2355
Concession Perception	.6688
Negotiation Outcome	
Benefit Prior to the Agreement	.3140
Benefit After the Agreement	.2613
Benefit Difference Percentage	.9008

classification rate of 76% which is better than the 50% chance of random assignment (See Table F-11). Assessment of the correlation coefficients between Negotiation Potential and the discriminant function shows that both operational and perceptual measures can be used to differentiate between shipper and motor carriers (See Table 20).

Negotiation Interaction is also an area where shippers and motor carriers can be differentiated. This discriminant function is significant at the .05 level (.000), and can correctly classify participants into groups 83% of the time (See Table F-11). The test of the equality of the covariance matrices does suggest that this assessment be viewed with reservation. Tests of the correlation coefficients between Negotiation Interaction variables and the discriminant function indicates that total issues discussed, concession perceptions, and the total number of concessions of the other party are different between shippers and motor carriers (See Table 20).

Assessment of the tests of Negotiation Outcome indicates that the significant discriminant function (.000) can correctly classify participants into groups 72% of the time (See Table F-11). While this function is statistically significant, the test of the equality of the covariance matrices is significant, and therefore the function should assessed carefully. The tests of correlations between the variables of Negotiation Outcome and the discriminant

function indicate that differences between shippers and motor carriers are most significant on the benefit prior to the contract and the benefit difference percentage (See Table 20). These results indicate that group hypothesis #11 be accepted.

Group Differentiation Conclusions

General assessment of the group differentiation tests requires that each general construct area be evaluated individually. All seven of the construct areas were able to differentiate between participant groups during different tests.

The variables of the Personal Environment can be used to distinguish between motor carriers of different sizes, and those which have different levels of contracting experience. In addition, shipper negotiators working for organizations with different levels of contract experience are also different on the elements of the Personal Environment. Differences can also be established between the personal and personality characteristics of the negotiators between shipper and motor carrier organizations.

The Organizational Environment also differentiates by the organizational size, experience, and shipment size issues. Motor carrier organizations are differentiated by their size, and experience on the variables of the positions of the participants of the negotiation process. Organizational size and shipment size for shippers indicates

that the position of participants that represent their organizations are different. Differences are also apparent between shippers and motor carriers on the positions of the participants. These results indicate that different organizations are represented by negotiators with different levels of responsibility in their organizations.

Negotiation Potential is a significant factor in assessing all types of negotiation situations except those with different levels of contracting experience. The main interpretation from this result is that perceived dependence is different between different participants in most negotiation situations. Dependence perceptions also have stronger relationships to the differences between the organizations than the operational dependence measures.

Shippers did differentiate on the element of Negotiation Preparation. This result indicates that shippers of different sizes, in different industries, and in different bidding situations prepare in differing levels of detail. This result might indicate that negotiators can anticipate the extent of preparation that different shipper negotiators will use prior to bargaining.

Differences on Negotiation Interaction indicate that shippers and motor carriers do differ in certain situations. Those situations include shippers using bidding and non-bidding processes. Motor carrier organizations have similar results for LTL shipments. These results might

indicate shorter interaction or bargaining phases in situations where less information is needed. Differences are also apparent between shippers and motor carriers which might indicate potential disagreements between the parties over the general bargaining process to be used.

Negotiation Outcome factors are different for shipper organizations by industries, and shipment sizes. This result indicates that some industries gain greater benefits from transportation service contracts than others, and that benefits are different for shippers by the size of their shipments. In addition, shippers and motor carriers benefit at different levels from contracts for transportation service.

Finally, Shipper experience distinguishes the amount of time the duration of the negotiation process will take. This might indicate differences in perceptions of the time necessary to reach agreement with different shippers and therefore be essential to motor carriers trying to meet their needs.

In general these results of the group analysis provide the foundation to consider the variables of the process model as being generally applicable to most shipper and motor carrier contract negotiation situations.

II. NEGOTIATION PROCESS ANALYSIS

Tests of the negotiation process presented as a conceptual foundation for this research combined the data

from shippers and motor carriers. Distinctions were not made between shippers and motor carriers for these tests because the conceptual foundation has a very broad structure and the process tests were intended to assess the quality of those general relationships. These process tests considered the relationships which were hypothesized to exist between the basic construct areas of the proposed conceptual model. Basic statistical relationship tests were conducted to investigate the variable relationships between the five basic construct areas. These tests included the use of correlation analysis (using the Pearson Product-Moment Correlation Coefficient, and Somers'd value when necessary), and multiple regression analysis to assess the quality of the variable relationships between the general construct areas. The results presented are structured by their corresponding order of activities during the negotiation process including the implications of the temporal dimension, and the hypothesized relationships of the environmental factors with the elements of the process.

Potential Influence on Preparation

It was hypothesized in process hypothesis #1, that negotiator perceptions of negotiation potential would influence the amount of preparation which firms would use in preparing for the interaction with the other party. This dependence relationship was tested using both perceptual measures of dependence (the rating scale, and the Likert

scale) on the amount of time spent collecting the data during the preparation phase. The results of the correlation analysis, presented in Table 21, indicate that negotiators do not consider the relative positions of the participant firms in determining the amount of time spent in collecting data and preparing for the negotiations.

A related hypothesis was developed to measure the relationship between operational dependence and the time spent preparing for the interaction with the other party (process hypothesis #2). This hypothesis was tested using correlation coefficients between the levels of operational dependence (the percentage of the total transportation business done by each firm) and the number of hours spent by the parties preparing for the interaction phase. Table 21 presents the results of these correlation tests. While the results do not support a significant relationship between operational dependence and preparation it should be noted that the relationship is stronger between tonnage percentage and preparation, than perceived measures of dependence and preparation.

Consideration was also given to determining the relationship between the perceptional measures of dependence and the operational measures of dependence. Process hypothesis #3 was intended to assess the correlation which exists between those operational and perceptual measures of dependence. Table 22 presents the results of this test,

Table 21. Test of the Influence of Dependence on Negotiation Preparation Using Correlation Analysis.

		Negotiation Preparation		
		Total Manhours	Manhours Collecting Internal Information	Manhours Collecting External Information
Perceived Dependence	Rating Scale	.0244 (.323)	.0339 (.262)	.0723 (.089)
	Likert Scale	-.0234 (.330)	-.0207 (.348)	.0492 (.180)
Operational Dependence	Freight Bill Percentage	.0514 (.171)	.0390 (.237)	.1414 (.005)
	Tonnage Percentage	.1431 (.004)	.1345 (.007)	.1790 (.001)

( ) Significance values for Pearson Correlation Coefficients

which indicate that there appears to be no relationship between the operational and the perceptual measures. However there is a significant correlation (.7919) between the dollar value and the tonnage measures of operational dependence. The results of the first three tests indicate that little correlation is established between Negotiation Potential and Negotiation Preparation. These results lead to the rejection of process hypotheses #1, #2, & #3.

Preparation Influence on Interaction

The conceptual extension of the model from the preparation phase of negotiation logically leads to the relationship between negotiation preparation and interaction. Process hypothesis #4 addresses this issue by assessing the relationship between the time spent preparing for the interaction phase (including the consideration of the number of issues which the negotiators actually spent time preparing) and the activities comprising interaction which was assessed by the number of contract issues discussed. Statistical analysis was conducted using two techniques. First, was the use of correlation analysis between the number of issues discussed, the difference in the number of concessions made by the parties, and the preparation variables. The results from these tests are included in Table 23. These results can lead to the conclusion that the number of issues prepared is the most

Table 22. Tests of Relationships Between Perceived Dependence and Operational Dependence Using Correlation Analysis.

		Operational Dependence	
		Freight Bill Percentage	Tonnage Percentage
Perceived Dependence	Rating Scale	.1544 (.002)	.1962 (.001)
	Likert Scale	.1556 (.002)	.1619 (.001)

( ) Significance values for Pearson Correlation Coefficients

Table 23. Tests of Relationships between Negotiation Preparation and Negotiation Interaction Using Correlation Analysis.

		Negotiation Interaction	
		Total Issues Discussed	Degree of Concessions
Negotiation Preparation	Total Manhours	.0590 (.152)	-.0084 (.440)
	Manhours Collecting Internal Information	.0470 (.194)	-.0033 (.476)
	Manhours Collecting External Information	.1013 (.033)	.0203 (.358)
	Total Issues Prepared	.6341 (.001)	.1399 (.006)

( ) Significance values for Pearson Correlation Coefficients

significant factor influencing the issues discussed between the parties.

The use of correlation analysis in this application lacks the mutual consideration of the independent variables of the preparation phase. Regression analysis was used to assess the independent variables jointly in the same model with the dependent variable. In this case four regression functions were created to address the potential relationships which could exist between the variables comprising negotiation preparation and negotiation interaction. The results of these functions (presented in Table G-1, Appendix G) are differentiated by the inclusion of different independent variables of the negotiation preparation phase and two different statistical measurement processes (Traditional regression and Stepwise regression). The negotiation preparation variables require different considerations because of the distinction made between the time spent collecting internal information, the time spent collecting external information and the total time spent collecting information for the negotiations with the other party. The total measure was deleted from two of the analyses to eliminate the possibility of correlation between the sum of the internal and external information measures and the total measure.

Assessment of these issues leads to the following conclusions which are important to the relationship between

negotiation preparation and interaction. As is presented in Table 24 (and supported in the correlation coefficients on Table 23) an acceptable relationship is established between the number of issues prepared prior to the interaction phase, and the number of issues discussed during the interaction phase. The coefficient of determination of .424 is generally considered acceptable for behavioral research applications. The results of each regression function confirm the basic assertion that the major variable of interest in determining the number of issues discussed is the number of issues prepared prior to the interaction. These results provide support to accept process hypothesis #4.

Interaction Influence on Outcome

It was hypothesized that agreement between the parties would be based on the discussions which took place. Process hypothesis #5 specifically looked at the influence of contract variables on the outcome of the negotiation process. This was accomplished by testing a regression function across each contract issue (the point during discussions when the issue was addressed and the concession level for both participants on that issue) using benefit difference percentage as the dependent variable. The contract issues were the position of the issue in the discussion order, and the degree of concessions made by each party on that issue during the discussions. As presented in

Table 24. Regression Results Using Stepwise Analysis Between Negotiation Preparation and Negotiation Interaction.[a]

$Y = 2.584 + .619\ (X_1)$

R^2	F	df	Significance
.412	224.09	1 320	.001[b]

Y = Total Issues Discussed

X_1 = Total Issues Prepared

[a] Negotiation Interaction is represented as the total number of issues discussed.

[b] Significant at the .05 level.

Tables G-2 and G-3 of Appendix G, the data utilized to assess the relationship between negotiation interaction and negotiation outcome for both shippers and motor carriers is significant in two areas for shippers and two areas for motor carriers. Motor carrier outcomes are influenced by the liability and insurance issue, and the contract duration issue (See Table 25). These two outcomes may indicate that motor carrier organizations may consider those factors to be more important to the outcome of the contract than other issues. Table 26 which presents shipper influences on the Negotiation Outcome indicates the influence of payment terms and personal factors on the outcome of the contract. This result might indicate that shipper negotiators consider the personal and personality characteristics involved in controlling the discussions to influence the outcome of the contract. These results lead to the accceptance of process hypothesis #5.

Temporal Influence on the Process

One element of the conceptual foundation used in this study concerned the "feedback loop" for information which can be used to reassess the activities of the negotiation process at different points and use that information as a basis to develop new strategies to use with the other party during the next interaction session. This consideration of the temporal dimension was measured using the number of face-to-face meetings, the number of telephone

Table 25. Regression Results Between Negotiation Interaction and Negotiation Outcome Using Motor Carriers.

Model 1: Liability and Insurance Issues on Outcome. [a]

$Y = -18417 + 5399931 (X_1)$

R^2	F	df	Significance
.239	16.335	1 52	.001 [b]

Model 2: Contract Duration on Outcome. [a]

$Y = 3943170 - 501897 (X_2)$

R^2	F	df	Significance
.089	5.175	1 53	.027 [b]

Y = Benefit Difference Percentage (Traffic lane tonnage)

X_1 = Concession Perception - Other - Liability

X_2 = Issues Discussed - Contract Duration

[a] Use of Stepwise Analysis.

[b] Significant at the .05 level.

Table 26. Regression Results Between Negotiation Interaction and Negotiation Outcome Using Shippers.

Model 1: Payment Terms on Outcome. [a]

$Y = .783 + .090\ (X_1)$

R^2	F	df	Significance
.030	4.442	1 145	.037 [b]

Model 2: Personal Factors - Self - on Outcome. [a]

$Y = .778 + .016\ (X_2)$

R^2	F	df	Significance
.031	4.341	1 134	.039 [b]

Y = Benefit Difference Percentage (Rate/cwt)

X_1 = Concession Perception - Self - Payment Terms

X_2 = Issues Discussed - Personal Factors - Shipper

[a] Use of Stepwise Analysis.

[b] Significant at the .05 level.

conversations, and the total number of weeks for the duration of the process as variables. Table 27 presents the results of the tests covering process hypotheses #6 through #9. While little support is established for the overall relationship between the temporal dimension and the interaction phase of the negotiation process, it is interesting to note that there is a stronger relationship between the number of issues discussed and the temporal dimension than the concessions made and the temporal dimension. Also, it appears that the number of meetings is a slightly better measure of the temporal dimension than the total number of weeks comprising the duration of the process. These results lead to the rejection of process hypotheses #6, #7, #8, and #9.

One last conclusion on the temporal environment which was not originally hypothesized but tested for interest, was the influence of the number of telephone discussions on negotiation interaction. As the results indicate in Table 27 the number of telephone conversations appears related to the number of issues discussed and the number of concessions made by that party as well as either of the other two variables used. This outcome might influence the perception of motor carrier contract negotiation as being a less formal process rather than a formalized process which requires face-to-face meetings to reach an outcome.

Table 27. Analysis of the Influence of Temporal Issues on Negotiation Interaction Using Correlation Analysis .

	Negotiation Interaction		
	Issues Discussed	Concessions Other Party	Concessions Self
Face-to-Face Meetings	.1197 (.016)	.0471 (.201)	.0886 (.058)
Number of Telephone Conversations	.1295 (.011)	.0741 (.096)	.1403 (.007)
Weeks of Duration	.0234 (.333)	.0398 (.233)	.1080 (.025)

( ) Significance values for Pearson Correlation Coefficients

Influence of Personal Factors on Negotiations

Process hypothesis #10 was structured to assess relationships between elements of the Personal Environment and the interaction phase of the negotiation process. Specifically, it was hypothesized that the experience of the negotiator would influence the concession rate that the negotiator would follow during the discussions with the other party. Two Pearson Product-Moment Correlation coefficients were calculated to determine the relationship between the concession difference (the difference between the number of concessions made by the other party and the number of concessions made by the negotiator) and experience, and the number of concessions made by the negotiator and experience. The results of both tests indicate a low correlation between experience and concessions. Experience and the number of concessions was calculated at .0637, and experience and the concession difference was calculated at -.0627. The conclusion from this analysis supports the contention that experience of the negotiator does not significantly influence the amount of concessions made by the negotiator. Process hypothesis #10 is rejected on these results.

In addition to the influence of experience on interaction, Process hypothesis #11 addresses the relationship between negotiator experience and the dominance of that negotiator during the interaction phase. The

calculation of correlation coefficients for experience and personality variables is presented in Table 28. These results indicate that negotiators do not go through "bargaining" personality changes as they become more experienced with negotiating and therefore process hypothesis #11 is rejected.

Influence of the Number of Organizational Participants on Negotiation Preparation

The final two process hypotheses address the relationship between organizational characteristics and negotiation preparation and interaction. The purpose of these two hypotheses was to assess the influence that the organization has over the negotiation process. Process Hypothesis #12 was developed to assess the relationship between the number of organizational members participating in the negotiation process and the amount of time spent by the organization preparing for the interaction with the other party. Table 29 presents the results of this test which indicate that their is significant correlation between the number of participants and the time spent collecting information, including the total time spent collecting information and the time spent collecting information from sources within the organization. The major conclusion from this test might be that firms do not spend as much time collecting information beyond that available from within the organization. This result can be significant since the

Table 28. Tests of Influence of Personal Factors on the Personality of the Negotiator Using Correlation Analysis.

		Personal Factor
		Negotiator Experience
Self Personality Factors	Optimism	.057 (.144)
	Control	.033 (.481)
	Friendliness	-.035 (.257)
	Strength	.058 (.139)
	Dominance	.073 (.090)
	Success	-.020 (.353)

( ) Significance values of Pearson Correlation Coefficients

Table 29. Analysis of the Influence of the Number of Organizational Participants on Negotiation Preparation Using Correlation Analysis.

		Organizational Characteristics	
		Number of Discussion Participants	Number of Preparation Participants
Negotiation Preparation	Total Manhours	.3559 (.001)	.4480 (.001)
	Manhours Collecting Internal Information	.3411 (.001)	.4803 (.001)
	Manhours Collecting External Information	.2172 (.001)	.2024 (.001)

( ) Significance values of Pearson Correlation Coefficients

collection of external information has been established as an influencing factor on Negotiation Interaction. This result leads to the conclusion to accept process hypothesis #12.

The Influence of Organizational Position Titles on Negotiation Interaction

The final hypothesis tested assessed the influence of organizational titles on the elements of interaction during the negotiation process (process hypothesis #13). Position titles were considered for both negotiators and the final decision makers over the terms of the contract for both organizations. Since the data used in this test included both ordinal and ratio data two statistical tests were computed to determine agreement between the statistical analysis. Pearson Product-Moment Correlation coefficients were used under the assumption that the data was interval or ratio scale data. A second test (Somers' d coefficient) was used under the assumption that the data was ordinal level data (Somers, 1962). The results of both of these correlation tests are presented in Table 30. There is limited strength of the association between the position levels of the participants and the interaction activities which take place during negotiations. These results (using Somers' d) indicate little association between the title of the participants from the other party and the title of negotiator with the number of issues discussed. These

Table 30. Analysis of the Influence of Organizational Participant Titles on Negotiation Interaction using Correlation and Tests of Association.

		Issues Discussed	Concession Perceptions	Concession Differences
Organizational Charateristics (Position Titles)	Other Parties Negotiator Title	.1048[1] (.026)[2] .1506[2]	-.0850[1] (.054)[2] -.1232[2]	.1373[1] (.006)[2] .0901[2]
	Other Parties Decision-maker Title	.0315[1] (.283) .1321[2]	-.0875[1] (.052) -.1480[2]	.1774[1] (.006) .0171[2]
	Negotiator Title	.0384[1] (.239)[2] .1263[2]	.3408[1] (.001)[2] .0503[2]	-.2161[1] (.001)[2] -.0330[2]
	Decision-maker Title	-.0098[1] (.498)[2] -.0626[2]	.3764[1] (.001)[2] .0148[2]	-.2361[1] (.001)[2] .706[2]

1 - Pearson Product Moment Correlation Coefficient.

2 - Somer's d Association Coefficient.

results lead to the rejection of process hypothesis #13.

III. CONCLUSIONS FROM THE ANALYSIS

Several conclusions result from the group analysis and the process analysis which are of importance to contract negotiation activities for shippers and motor carriers. The results from the tests of group differences indicates that the approaches used by negotiators from differing types of organizations and under differing circumstances generally follow the process presented in the conceptual foundation. The results indicate a range of specific applications of the concepts. A summary of the range of applications for each hypothesis is presented in Table 31.

The differences presented in the tests of the group hypotheses indicates that all seven areas of the conceptual foundation tested had statistically significant differences on at least one of the eleven hypotheses. Negotiation Potential was the most frequent distinguishing area, indicating that participants in different circumstances do perceive their positions and the positions of the other party to be different. This conclusion is especially important for negotiators that must attempt to gain as much power as possible prior to entering the bargaining or interaction phase of the process. These perceptions can influence the decisions made on specific issues and eventually alter the nature of the final contract.

Organizational Environment variables also indicate

Table 31. Summary Table for the Group Difference Tests.

	Hypothesis #1 Motor Carrier Organizational Size	Hypothesis #2 Shipper Organizational Size	Hypothesis #3 Motor Carrier Contract Experience
Personal Environment	Negotiator Experience Negotiator Personality		Negotiator Experience Negotiator Personality
Organizational Environment	Participant Title	Preparation Participants Participant Title	Participant Title
Negotiation Potential	Perceived Dependence	Operational Dependence Perceived Dependence	
Negotiation Preparation		Total Issues Considered	
Negotiation Interaction			
Negotiation Outcome			
Temporal Dimension			

Table 31. (Continued)

	Hypothesis #4 Shipper Contract Experience	Hypothesis #5 Shipper Industry Classification	Hypothesis #6 Motor Carrier Industry Classification
Personal Environment	Negotiator Experience Negotiator Personality		
Organizational Environment			
Negotiation Potential			
Negotiation Preparation		Total Issues Considered	
Negotiation Interaction			
Negotiation Outcome		Benefit Difference	
Temporal Dimension	Number of Discussions Duration of Time		

Table 31. (Continued)

	Hypothesis #7 Shipper use of a Bid Process	Hypothesis #8 Motor Carrier use of a Bid Process	Hypothesis #9 Motor Carrier Shipment Size
Personal Environment			
Organizational Environment			
Negotiation Potential	Operational Dependence Perceived Dependence		Perceived Dependence
Negotiation Preparation	Total Issues Considered		
Negotiation Interaction	Total Issues Discussed Concession Perception		Total Issues Discussed Concession Perception
Negotiation Outcome			
Temporal Dimension			

Table 31. (Continued)

	Hypothesis #10 Shipper Shipment Size	Hypothesis #11 Shippers and Motor Carriers
Personal Environment		Negotiator Experience Negotiator Personality
Organizational Environment	Preparation Participants Participant Title	Participant Title
Negotiation Potential	Operational Dependence Perceived Dependence	Operational Dependence Perceived Dependence
Negotiation Preparation		
Negotiation Interaction		Total Issues Discussed Concession Perception
Negotiation Outcome	Benefit Difference	Prior Benefit Benefit Difference
Temporal Dimension		

significance in their influence on the situations surrounding negotiation activities. These results might be most significant in helping motor carrier and shipper firms determine the most appropriate person in the opposing organization to deal with, and who the final decision maker most probably will be. This information can contribute to the influence of the temporal duration of the process and provide an indication of the approaches that may be used by the other party to gain power in the negotiations.

Personal Environment factors indicate differences in the type of organizations and situations that surround negotiations. Recognition of the personal factors that can influence different negotiation situations can be important for negotiators. As an example, a motor carrier representative must know the distinct characteristics of each organization that his firm serves. These characteristics such as the length of time that the shippers organization has been doing business under contracts can indicate the amount of experience that the opposing negotiator has in this area. This information may indicate to the negotiator that a firm initial position is necessary to insure acceptable end results.

Negotiation Preparation activities are different in different types of shipper organizations. Again, the motor carrier representative must know the extent of preparation and the issues that the shipper's negotiator will prepare.

Without this information the negotiator can be at a significant disadvantage when he enters the bargaining phase with the other party.

Negotiation Interaction seems to be differentiated in situations where the nature of the negotiation situation is different. This is most evident in situations where a bidding process is used. Use of a bidding procedure may limit the amount of information necessary to achieve an outcome and therefore lead to a less complex interaction process, much like the low-involvement conceptualization of consumer decision processes. A similar situation may exist for motor carriers contracting with shippers for LTL shipments. The nature of this type of movement may be little more than a longer term commitment to move commodities at the traditional tariff rate for a special level of service. With limited input information again the process may become less complex.

Negotiation Outcome variables indicate differences by shipper industries and shipment sizes for shippers. These results may indicate that shippers do benefit more in some specific situations than others. This is important for both parties to know so that both parties can benefit from the contractual agreements. As an example recognition by the motor carrier of significant shipper benefit in one movement can be used as a bargaining tool in gaining a concession on another movement option. In this way both parties can

benefit from the agreement and achieve a "WIN - WIN" solution.

The last area of interest is the influence of temporal constrates on negotiation activities. Shipper organizations are differentiated on the temporal variables by their level of organizational experience at negotiating contracts. This might be an indication that the experience level of the organization is important to expected responses of the parties and the total duration of time commitment to the negotiation process.

These results do indicate the need for specialized studies of the influence variables on specific areas of the negotiation process. This is especially important when considering the diverse characteristics of the individuals and organizations which participate in negotiations for transportation service contracts.

The results of the process tests did not provide the desired construct relationships which had been hoped. Many of the correlation coefficients between the general construct areas were not as significant as were hypothesized. There are three reasons which may help to explain these results. First, the major intent of this project was to conceptualize negotiation as a process and establish the variables which may influence that process. The nature and scope of that grandeous mission may have influenced the ability to develop specific measures which

would substantiate the process relationships. Second, the measures used in this study are in their infancy of development, and will require future application in specific negotiation research to improve their quality. Finally, it should be recognized that the construct areas tested in this study did not exhaust all of the conceptualized relationships presented in the dyadic conceptual model. Therefore the tests of the process relationships may require future testing of specific activity relationships.

The results of the process tests do support relationships between the process constructs on three hypotheses (See Table 32). First, significance was established between Negotiation Preparation and Negotiation Interaction. This helps to support the contention that effective interaction or bargaining requires effective collection and processing of information during the preparation and pre-bargaining activities. Second, support was established between specific contract characteristics and the outcome or benefit from the contract. These results help to support the conceptualized position that interaction activities do influence the eventual benefit gained through the contract. Finally, support is established between the organizational element of departmental strategy toward negotiation activities, especially the amount of human resources used during the process and the time spent

Table 32. Summary Table for the Significant Tests of the Negotiation Process.

Hypothesis #4 Negotiation Preparation Influence on Negotiation Interaction Activities	Hypothesis #5 Negotiation Interaction Influence on Negotiation Outcome Benefit	Hypothesis #12 Relationship of Organizational Human Resource Inputs into Negotiation Preparation
Total Issues Prepared Influences Total Issues Discussed	Liability & Insurance, and Contract Duration Influence Motor Carrier Contract Benefit Payment Terms, and Personal Characteristics of the Shipper's Negotiator Influence Shipper Contract Benefit	Number of Preparation and Discussion Participants Influences Number of Manhours spent collecting internal and total information

collecting information during preparation for the bargaining phase.

The results from the statistical analysis indicate support for the basic conceptual model presented, and highlights the need for specific understanding of the universal applications of the negotiation process in different types of transportation contract negotiation situations.

CHAPTER VI

IMPLICATIONS AND RECOMMENDATIONS FROM THE RESEARCH

The literature review and conceptual foundation along with the results of the empirical tests of the proposed model provide the basis for an assessment of the usefulness of this research to practitioners and academics of logistics activities. This chapter presents implications from this research (including conceptual implications as well as methodological implications), and proposes approaches for future research to further the understanding interorganizational exchange negotiation activities.

I. CONCEPTUAL IMPLICATIONS FROM THE RESEARCH

Total assessment of the group tests and the process tests of the conceptual model of the negotiation process lead to the conclusion that the model as presented is an appropriate general framework to use to represent negotiation as a process. While the results of the process tests do not overwhelmingly substantiate the conceptualized process, support is established for relationships between preparation, interaction and outcome which are the underlying foundations of the process. In other words, without effective preparation successful bargaining may not take place.

The group differentiation tests do substantiate the

model and provide information which will help to indicate individual universal application of the concepts in special transportation contract negotiation situations. This result allows negotiation researchers greater flexibility in selecting negotiation situations to understand how the process is applied. In addition, logistics practitioners may be able to apply the concepualization to contract negotiation situations across industries, types of motor carriers, different sizes of organizations, and differing levels of organizational experience.

From this research several criteria have been established which the negotiator may use to evaluate the quality of a previous negotiation situation or determine ways to enhance the quality of a future negotiation opportunity. These criteria are represented in three phases through the following questions:

A. Negotiation Preparation

1. Was an appropriate assessment of the relationship between the parties conducted?

2. As the negotiation process evolved was it necessary to reevaluate the positions of the parties involved?

3. Were the strategies developed to influence the other party effective?

4. Was the neccessary information on the personal characteristics of the participants collected prior to each bargaining session?

5. Was the necessary information on the organizational characteristics of the

participating firms collected prior to each bargaining session?

6. Was the necessary information on the contract issues collected prior to each bargaining session?

7. Was the information collected during preparation used as a basis for establishing the negotiation goals and strategies for that particular negotiation situation?

8. Were the negotiation goals and strategies for the corporate mission and goals of your company?

B. Negotiation Interaction

1. Was the location of the bargaining meetings an influencing factor on the activities during those meetings?

2. Did the immediate physical setting influence the approach of the negotiators during the meetings?

4. Were the influence strategies used by the other party effective in changing my position on the issues of the contract?

5. Were the influence strategies which I used effective in changing the other parties position on the issues of the contract?

6. Was my initial negotiating position appropriate for an acceptable agreement?

7. Did I place the appropriate emphasis on the contract issues of importance to my firm?

8. Were my strategies on concessions appropriate on each issue?

9. Did I feel comfortable with the agreement prior to its verification?

C. Negotiation Outcome

1. Was there a need to renegotiate elements of the contract after the final document was drafted?

2. Do the terms of this contract maximize the contribution that it can make to the goals of my company?

3. Does this contract provide the long term and short term relationships necessary for my company?

4. Do I have the necessary information documented from this negotiation which can be used in future negotiations with this party.

5. Would I want to do business with this party in the future?

The application of the process does recognize that its utilization by different participants will vary. It is that difference in application which produced differing results on the all seven group test areas. These results indicate that differences between shippers and motor carriers are significant in all of the general construct areas. Therefore, future conceptualization of the elements of the negotiation process may provide more specific information and understanding on the application of the process.

II. METHODOLOGICAL IMPLICATIONS FROM THE RESEARCH

One purpose of this research was to present a conceptual foundation from which future research of the negotiation process in logistics could depart. It was not intended to be a definitive consideration of all activities of the process. Therefore the conceptual model does provide a vehicle which researchers can use to address specific elements of the negotiation process. Two major areas which

may be fruitful are the integration of sales preparation concepts into negotiation preparation and the use of specific bargaining strategies from political science and organizational behavior into the interaction in logistics applications.

A second methodological issue is the need to develop more accurate measures of perceived dependence and operational dependence applications in negotiation situations. Further research is necessary to establish the relationship which exists between these two concepts and their implications on negotiation activities. This may be accomplished through the use of simulated negotiation environments which allow for the control of the dependence variables, if the nature of the competitive environment between the participants can be maintained. In conjunction with the need to establish perceptual measures of dependence, it should be noted that the measures of freight bill percentage and tonnage percentage were established to contribute to the positions of the participants. Therefore, operational measures may prove more beneficial for determination of the positions of the participants than the perceptual measures. It should be noted that since negotiation is a behavioral activity consideration of perceptual measures may prove more beneficial in given negotiation situations.

Finally, the source of the shipper participants to the

study should be noted. Since no data exists to determine if the membership of the Council of Logistics Management is representative of the general population of logistics practitioners, the generalizability of the results can not go beyond the characteristics of its membership. This issue is only applicable to the characteristics of the shipper organizations participating. The methodology used did not preclude individual participation from non CLM members, since each questionnaire was to be forwarded to the individual responsible for negotiating the contract. Therefore it would be beneficial to determine the true representativeness of the CLM membership.

III. RECOMMENDATIONS FOR FUTURE RESEARCH

To maximize the conceptual benefit from understanding the negotiation process and make a contribution to theoretical development of negotiation in exchange relationships it is necessary to provide direction for future research. Two major research issues arise for consideration. First, are the methodological issues which help to provide the appropriate design of research applications. Second, is the applications of the research and the consideration of the appropriate settings for negotiation to be studied.

Methodological Research Issues

Since negotiation research has a limited foundation in

the application of exchange environments, it is necessary that the majority of research in the immediate future follow an exploratory structure. This exploratory format will allow researchers to more completely understand the specific activities contained within the general construct areas of the model presented in this research. Detailed analysis of the preparation phase could be conducted using protocol analysis of actual negotiation participants to determine the actual elements of the preparation phase. Case studies, using observations of actual bargaining situations may provide the most insight into the interactive phase of the negotiation process. Using observations to study the interactive phase will also provide data lacking from many previous negotiation studies. That data includes information from both parties in a dyadic structure. One major purpose of the conceptual model introduced in this research is the inclusion of both parties in the negotiation environment. Finally, future research needs to be conducted to assess more effective measures of the outcome of negotiation activities. This includes successful agreements as well as those which resulted in the lack of agreement between the parties.

Experimental research in a simulated laboratory environment is also necessary in the short run. Applications of this nature can help establish perceptual measures of personality and dependence variables.

Laboratory research may also prove useful in the future as a vehicle to control different negotiation variables and determine the influence of specific situational factors on the preparation, discussions, and outcomes of negotiation activities. Researchers should be cautioned on this issue. This particular research application is only appropriate after considerable exploratory research has established specific activity variables in each construct area, and after a laboratory environment has been structured which properly represents the desired negotiation environment.

Applications Research Issues

This study restricted the application of the negotiation process to the contract environment between shippers and motor carriers. The results indicate that future research of shipper-motor carrier negotiations is necessary. The results from future studies of these contractual situations can provide actual dyadic data which can yeild more insight into specific process applications. In addition consideration should be given to normal rate negotiations between shippers and motor carriers to determine similarities and differences in the applications.

Modal expansion of the conceptual foundation is also of importance to understand how rail carriers treat the contract negotiation process with shippers since its authorization in the Staggers Act (1980). Results of this research may provide insights into the influence of the

corporate culture on negotiation activities for both parties. In addition to rail applications of the negotiation environment, longterm research should attempt to understand the influence of cultural factors such as those faced by international transportation firms, such as those in the ocean shipping industry. The influence of these factors may shed new light on applications of the negotiation process.

Finally, research of exchange negotiations needs to take place in the logistics channel in buyer-seller relationships between marketing representatives. The time is appropriate to integrate concepts from the sales literature and the buyer behavior literature to address the true nature of the exchange relationship. This relationship is the dyadic relationship which is necessary for any transaction to take place and therefore needs conceptual integration into marketing theory and practice.

IV. CONCLUSION

This research has set out to develop a conceptual dyadic model of the interorganizational contract negotiation process, and provide empirical support for the conceptual relationships of the model as well as its general applicability in different motor carrier contract situations. The model was developed from previous conceptualizations in the organizational behavior, political science, sociology, marketing, and logistics literature.

In addition, this research has provided a strong foundation from which future exchange negotiation research may progress. Direction is established through recommendations of different methodological approaches, and consideration is given to the appropriate order of research activities as well as specific conceptual issues which require attention. Recommendations are also made to test the model using dyadic data (which this research did not do), consider more effective testing of behavioral measures for negotiation activities, and collect data from other transportation contract negotiation environments?

This research has also been structured to provide logistics practitioners with working information on the negotiation process which can be used in their daily negotiation activities. This includes information about general differences in participants to the process, as well as the presentation of the conceptualization which can be used by practitioners as a way to understand the development of the negotiation process. Finally, a series of questions are presented which can help the logistics practitioner to evaluate the performance and progress of current and previous negotiation activities between shippers and motor carriers.

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APPENDICES

APPENDIX A

CASE STUDY QUESTIONNAIRE

Case Study Format

Question #1: Starting with the initial point where you became aware of the potential negotiation with the (shipper or motor carrier) would takeplace, describe the factors, considerations and activities which lead to the resulting outcome.

Question #2: What personal characteristics (both yours and the other parties) influenced your actions?

Question #3: Did your position in the company influence the approaches which you used during the negotiations?

Question #4: Where there characteristics about your company which influenced the outcome of the negotiations?

Question #5: What factors outside of your firm (which you had no control over) influenced the negotiations?

Question #6: What is your perception of the relationship between your company and the other party?

How bad do you need them?

How bad do they need you?

Did this influence your approach to the negotiations?

Question #7: What preparation did you take for the meetings?

Did you establish goals for each meeting? (Please categorize the goals.)

Did they lead to strategies?

Question #8: Discuss the progression of events which took place during the meetings.

Which elements of the meetings had the greatest impact on your decisions?

Question #9: What is your reaction to the outcome of the discussions?

Please list the factors which you feel are most important for each of the following categories of negotiation activities.

Personal Factors

_____

_____

_____

_____

Internal Factors

_____

_____

_____

_____

Organizational Factors

_____

_____

_____

_____

External Environmental Factors

_____

_____

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Dependence

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_____

_____

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Power

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_____

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Situation Analysis

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Goal Establishment

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_____

_____

Strategy Development

_____

_____

Position Development

Consolidation

Finalization

Verification

Contract Agreement

Negotiation Breakdown

Time Constraints

Other Factors of Importance

APPENDIX B

MOTOR CARRIER COVER LETTER AND QUESTIONNAIRE

DEPARTMENT OF MARKETING AND TRANSPORTATION
College of Business Administration
University of Tennessee
Knoxville, 37916
Telephone: (615) 974-5311

June 27, 1985

Mr. Robert Gaither
Yellow Freight System, Inc.
Pleasant Ridge Road
Powell, Tennessee

Dear Mr. Gaither:

As part of the dissertation requirement for the Ph.D. degree, I am requesting that your company participate in a study of the contract negotiation process for motor carrier service. Enclosed is a questionnaire intended for the person in your company who was responsible for negotiating the most recent motor carrier contract with a shipper. Please forward the questionnaire to this person and ask him/her to respond to the items requested. It is specifically developed to be factual - to the point - and should require a minimum amount of time to complete.

Given the recent changes in the transportation industry, shippers and motor carriers find themselves involved in negotiation more than ever before. This provides a unique opportunity to contribute, through research, to daily activities of practitioners. From this research I hope to learn more about the negotiation process. In addition, I hope to provide a foundation to understand differences in groups of motor carriers and groups of shippers by the way that they negotiate transportation contracts.

Your participation can help make this research effort successful for me, and at the same time you can benefit by requesting a summation of the results when the project is complete. If you would like a copy of the results please put your name and address on the lines provided at the end of the completed questionnaire. Your support is very much appreciated.

Sincerely,

Lloyd M. Rinehart
Ph.D. Student

Enclosures

DEPARTMENT OF MARKETING AND TRANSPORTATION
College of Business Administration
University of Tennessee
Knoxville, 37916
Telephone: (615) 974-5311

NEGOTIATION OF MOTOR CARRIER CONTRACTS

CARRIER QUESTIONNAIRE

Instructions

This questionnaire is intended to collect information which pertains to the characteristics of your company, and the shipper with which you most recently negotiated a contract for transportation service. The questions are structured to elicit factual information about the participants and companies. In addition, some questions will request your perceptions of the negotiators and their respective organizations.

Some questions refer to specific characteristics of the contract. If the contract contains provisions for more than one traffic lane, please focus your attention on the traffic lane with the most volume. In addition, when the contract provides for more than one commodity in the specified traffic lane, consider the commodity which has the greatest volume.

A list of terms and their definitions used in the questionnaire is included below. These will help you to interpret some of the questions.

When the questionnaire has been completed please return it in the envelope provided. Return postage is already included. Thank you for your help and cooperation.

Definitions

Organization - the firm which participates in the negotiation of the contract for transportation service.

Verbal Contract - an agreement between the shipper and motor carrier which is not documented in written form and contains provisions which are specific to the two parties.

Written Contract - an agreement between the shipper and motor carrier which is documented in written form and contains provisions which are specific only to the two parties.

Contract Motor Carriage - motor carrier movements which are developed through an explicit verbal or written agreement between a shipper and a motor carrier.

Man/hours - a unit of time used to assess the output of one or more people. (ex: 1 person working for six hours would be 6 man/hours, or two people working 3 hours each would be 6 man/hours.)

These questions are intended to address factual information about the participants and organizations which participated in the contract negotiations. Please circle the appropriate response to each question, or write in the appropriate answer as indicated.

1. How many organizations participated in the negotiation of this contract?

   a. 2
   b. 3
   c. 4 or more

2. Is this contract a verbal or written contract?

   a. verbal
   b. written

3. Did the shipper require a group of carriers to submit bids prior to negotiating this contract with your organization?

   a. yes
   b. no

4. What duration of time will this contract cover?

   a. less than 30 days.
   b. 1 month - 6 months.
   c. 7 months - 1 year.
   d. 1 year - 5 years.
   e. more than 5 years.

5. Please circle the commodity classification which is most appropriate for the commodities covered in this contract.

   a. Appliances
   b. Automotive and Transport Equipment
   c. Building Materials
   d. Chemicals and Plastics
   e. Clothing and Textiles
   f. Computer Harware and Equipment
   g. Construction, Farm and Garden Equip.
   h. Department Store and or General Mdse.
   i. Electronics and Related Instruments
   j. Electrical Machinery
   k. Food and Beverage
   l. Furniture
   m. Hardware
   n. Machine Tools and Machinery
   o. Metal Products
   p. Mining and Minerals
   q. Office Equipment and Supplies
   r. Paper and Related Products
   s. Petroleum and Petrochemicals
   t. Pharmaceuticals, Drug and Toilet Products
   u. Rubber Products and Related Goods
   v. Other _____

6. How many members of your company participated in the direct discussions with the shipper?

   _____person/people

7. How many people in your company were responsible for collecting and/or analyzing the information used during the negotiations, including staff personnel?

   _____person/people

8. How many years of experience do you have negotiating transportation service contracts?

   _____years

9. This shipper makes up what percent of your total operating revenue in this traffic lane?

   _____%

10. What percent of your total volume (tonnage) in this traffic lane comprises this shipper's products?

    _____%

11. How many other shippers have commodities moving in this traffic lane with which you do not currently do business?

    _____carriers

12. How many carriers from other modes are there that provide competitive service in this traffic lane?

    _____carriers

13. How many people are employed in your company?

    a. 0 - 49
    b. 50 - 99
    c. 100 - 499
    d. 500 - 999
    e. 1000 - 4999
    f. over 5000

14. How many years has your company provided contract motor carriage service?

    a. less than 1 year.
    b. 1 - 5 years.
    c. 6 - 10 years.
    d. 11 - 15 years.
    e. 16 or more years.

15. Is this contract for truckload or less than truckload movements?

    ____TL ____LTL

16. Please circle the appropriate category which reflects your operating revenue in 1984.

    a. $0 - $999,999
    b. $1,000,000 - 4,999,999
    c. $5,000,000 - 9,999,999
    d. $10,000,000 - 99,999,999
    e. $100,000,000 and above.

17. Please circle the appropriate category which reflects the shipper's sales in 1984.

    a. $0 - 9,999,999
    b. $10,000,000 - 99,999,999
    c. $100,000,000 - 999,999,999
    d. $1,000,000,000 and above

18. Please circle the appropriate category from Trinc's Blue Book of the Trucking Industry which reflects the classification of your organization.

    a. General Commodities - Transcontinental
    b. General Commodities - Regional
    c. Specialized - Agricultural Products
    d. Specialized - Building Materials
    e. Specialized - Motor Vehicle Products
    f. Specialized - Petroleum Products
    g. Specialized - Refrigerated Products
    h. Specialized - Other Commodities

Shipper Organizational Positions:

1. Purchasing Agent
2. Traffic Analyst
3. Purchasing Manager
4. Traffic Manager
5. Procurement Director
6. Transportation Director
7. Vice President of Logistics
8. Executive Vice President
9. President

19. Using the position titles listed above, please list the number corresponding to the title of the individual who was the shipper's primary negotiator. _____

20. Using the position titles listed above, please list the number corresponding to the title of the individual who made the final decision over the terms of the contract for the shipper. _____

Motor Carrier Organizational Positions:

1. Operations Supervisor
2. Sales Representative
3. Operations Manager
4. Sales Manager
5. Operations Director
6. Sales/Marketing Director
7. Operations Vice President
8. Sales/Marketing Vice President
9. Executive Vice President
10. President

21. Using the position titles listed above please choose the title which is most appropriate for your current position. _____

22. Using the position titles listed above, please choose the title which is most appropriate for the person in your company which made the final decision over the terms of this contract. _____

23. Please circle the departments in your company which participated in the development of this contract.

a. marketing c. purchasing e. traffic
b. research d. operations f. legal g. other _____

The following questions address the characteristics of the process which you used to negotiate this contract.

24. How many man/hours were used by the people in your company collecting information (not including face to face meetings and telephone conversations with the shipper) which was pertinant to the contract and the negotiation participants? _____hrs.

25. Of the hours spent collecting information (not including face to face meetings and telephone conversations with the shipper) by your personnel, how many hours comprised information from materials inside of your company (ie: traffic lane reports, discussions with company personnel, etc.)? _____hrs.

26. Of the hours spent collecting information (not including face to face meetings and telephone conversations with the shipper) by your personnel, how many hours comprised information from materials and people outside of your company (ie: independent financial reports, discussions customers and competitors, etc.)? _____hrs.

27. How many times were the terms of the contract discussed with the shipper in face to face meetings? _____times

28. How many times were the terms of the contract discussed with the shipper through telephone conversations? _____times

29. How many weeks, passed between the point when the shipper or carrier first mentioned the possibility of contracting for transportation service, and the point of final agreement? _____weeks

30. Prior to this contract, what was your company's average tonnage/month in this traffic lane? _____lbs

31. Since this contract became effective, what was your company's average tonnage/month in this traffic lane? _____lbs

The following questions address your perceptions of the issues which may have influenced the discussions with the shipper and the resultant contract.

32. Listed below are several topics (with a basic description of each) which pertain to the elements of negotiation and the resulting contractual agreement. Please rank the topics by their level of importance to you prior to the first face to face meeting with the shipper's negotiator. (1 for the most important topic, 2 for the second most important topic, etc. If one or more of the topics was not considered, please put a zero in that space.)

	Column #1	Column #2
Commodity Characteristics: (Type of Freight, Density, Packaging, Perishability)	_____	_____
Volume Requirements: (Volume, Number of shipments, size of shipments)	_____	_____
Equipment Factors: (Type of Equipment, Condition of Equipment)	_____	_____
Service Requirements: (Transit Times, Pickup and Delivery, Loading & Unloading, Pallet Exchange, Palletized Loads, Expedited Shipments, Shipment Information and Tracing, Market Coverage, Traffic Lane offerings)	_____	_____
Rate Issues: (Initial Rates, Rate Modifications, TL Rates, LTL Rates, Per Truckload Rates, Any Quantity Rates)	_____	_____
Payment Terms: (Payment Period, Payment Recipent, Non-payment Penalties, Discounts, Extended Billing)	_____	_____
Liability and Insurance Factors: (Loss and Damage, Insurance Requirements, Force Majeur clause)	_____	_____
Exclusivity: (Restrictions on multiple customer shipments, ie: the carrier putting two customers shipments in the same trailer, Restrictions on competitor shipments)	_____	_____
Contract Duration: (Length of contract enforcement, escape clause)	_____	_____
Confidentiality: (Restrictions on discussion of the contract terms)	_____	_____
Personal Factors of the Carrier's Negotiators: (Personality, Knowledge, Experience, Integrity, Honesty, Professionalism)	_____	_____
Personal Factors of the Shipper's Negotiators: (Personality, Knowledge, Experience, Integrity, Honesty, Professionalism)	_____	_____

33. In column #2 above, please rank the topics by the amount of time spent by the members of your organization in collecting and analyzing the information. (ie: 1 would require the most time, 2 the second most time, etc. If one or more of the topics did not require preparation time mark it/them with a zero.)

34. Please circle the topics above which required revision after the contract had been drafted and submitted for approval by the negotiators.

The following questions address the way in which the important issues were discussed by the parties, and your perceptions of the results of the discussions on each topic.

35. Using the categories listed below, please list in column #1 the order of topics as they were discussed in the meeting(s) with the shipper (1 would be the first topic discussed, 2 the second topic discussed, etc. If some of the topics were not discussed mark a zero in the space).

	Column #1	Column #2	Column #3
Commodity Characteristics: (Type of Freight, Density, Packaging, Perishability)	_____	_____	_____
Volume Requirements: (Volume, Number of shipments, size of shipments)	_____	_____	_____
Equipment Factors: (Type of Equipment, Condition of Equipment)	_____	_____	_____
Service Requirements: (Transit Times, Pickup and Delivery, Loading & Unloading, Pallet Exchange, Palletized Loads, Expedited Shipments, Shipment Information and Tracing, Market Coverage, Traffic Lane offerings)	_____	_____	_____
Rate Issues: (Initial Rates, Rate Modifications, TL Rates, LTL Rates, Per Truckload Rates, Any Quantity Rates)	_____	_____	_____
Payment Terms: (Payment Period, Payment Recipent, Non-payment Penalties, Discounts, Extended Billing)	_____	_____	_____
Liability and Insurance Factors: (Loss and Damage, Insurance Requirements, Force Majeur clause)	_____	_____	_____
Exclusivity: (Restrictions on multiple customer shipments, ie: the carrier putting two customers shipments in the same trailer, Restrictions on competitor shipments)	_____	_____	_____
Contract Duration: (Length of contract enforcement, escape clause)	_____	_____	_____
Confidentiality: (Restrictions on discussion of the contract terms)	_____	_____	_____
Personal Factors of the Carrier's Negotiators: (Personality, Knowledge, Experience, Integrity, Honesty, Professionalism)	_____	_____	_____
Personal Factors of the Shipper's Negotiators: (Personality, Knowledge, Experience, Integrity, Honesty, Professionalism)	_____	_____	_____

36. In column #2 above, please indicate your perception of the concessions by the shipper which were made on each topic discussed using the following scale:

0 - no concessions by the shipper
1 - moderate concessions by the shipper
2 - substantial concessions by the shipper

37. In column #3 above, please indicate your perception of the concessions which you made on each topic discussed using the following scale:

0 - no concessions by the carrier
1 - moderate concessions by the carrier
2 - substantial concessions by the carrier

The following statements refer to your perception of yourself, the other negotiator, and the resulting relationship between the two companies.

38. Please indicate your perception of the actions of the shipper's negotiator during the discussions over the contract.

	-3	-2	-1	0	1	2	3	
pessimistic	___	___	___	___	___	___	___	optimistic
impulsive	___	___	___	___	___	___	___	controlled
hostile	___	___	___	___	___	___	___	friendly
weak	___	___	___	___	___	___	___	strong
submissive	___	___	___	___	___	___	___	dominant
unsuccessful	___	___	___	___	___	___	___	successful

39. Please indicate your perception of <u>your</u> actions during the discussions with this shipper.

	-3	-2	-1	0	1	2	3	
pessimistic	___	___	___	___	___	___	___	optimistic
impulsive	___	___	___	___	___	___	___	controlled
hostile	___	___	___	___	___	___	___	friendly
weak	___	___	___	___	___	___	___	strong
submissive	___	___	___	___	___	___	___	dominant
unsuccessful	___	___	___	___	___	___	___	successful

40. Please indicate your perception of the dependence of your organization on the shipper.

No need for the shipper	1	2	3	4	5	6	7	8	9	10	Complete need for the shipper

41. Please indicate your perception of the dependence of the shipper on your organization.

No need for the carrier	1	2	3	4	5	6	7	8	9	10	Complete need for the carrier

42. The shipper felt our carrier service would make a substantial contribution to his business.

Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
1	2	3	4	5

43. The contract with this shipper is necessary to meet my companies objectives.

Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
1	2	3	4	5

44. In general, the shipper made more concessions to reach agreement over the terms of the contract than my company.

Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
1	2	3	4	5

The following questions pertain to provision contained within the contract. Please circle the appropriate response to each question, or write in the appropriate answer as indicated.

45. What percent of your total motor carrier freight bill moves under the terms provided in specific motor carrier contracts? _____%

46. Please indicate the states which contain the locations of the origin and destination of this traffic lane. (Mark the origin state with an O, and the destination state with an X. If both the origin and destination are in the same state please mark that state with a B.

____ Alabama	____ Montana
____ Alaska	____ Nebraska
____ Arizona	____ New Hampshire
____ Arkansas	____ New Hampshire
____ California	____ New Jersey
____ Colorada	____ New Mexico
____ Connecticut	____ New York
____ Delaware	____ North Carolina
____ Florida	____ North Dakota
____ Georgia	____ Ohio
____ Hawaii	____ Oklahoma
____ Idaho	____ Oregon
____ Illinois	____ Pennsylvania
____ Indiana	____ Rhode Island
____ Iowa	____ South Carolina
____ Kansas	____ South Dakota
____ Kentucky	____ Tennessee
____ Louisiana	____ Texas
____ Maine	____ Utah
____ Maryland	____ Vermont
____ Massachusetts	____ Virginia
____ Michigan	____ Washington
____ Minnesota	____ West Virginia
____ Mississippi	____ Wisconsin
____ Missouri	____ Wyoming

47. What is the minimum guaranteed weight for the carrier under the provisions of this contract?

_____lbs

48. Which organization prepared the written version of the contract, if the contract was documented in written form?

a. verbal agreement b. the carrier c. the shipper

49. Is the commodity considered in this contract inbound or outbound freight for your company.

_____inbound _____outbound

If you would like a summary of the results of this dissertation research, please include the name of your company, and a business address.

_____

_____

_____

_____

APPENDIX C

SHIPPER COVER LETTER AND QUESTIONNAIRE

DEPARTMENT OF MARKETING AND TRANSPORTATION
College of Business Administration
University of Tennessee
Knoxville, 37916
Telephone: (615) 974-5311

June 27, 1985

Clifford Lynch
Vice President - Distribution
U.S. Grocery Products
The Quaker Oats Company
Merchandise Mart Plaza
Chicago, Illinois 60654

Dear Mr. Lynch:

As part of the dissertation requirement for the Ph.D. degree, I am requesting that your company participate in a study of the contract negotiation process for motor carrier service. Enclosed is a questionnaire intended for the person in your company who was responsible for negotiating the most recent motor carrier contract with a carrier. Please forward the questionnaire to this person and ask him/her to respond to the items requested. It is specifically developed to be factual - to the point - and should require a minimum amount of time to complete.

Given the recent changes in the transportation industry, shippers and motor carriers find themselves involved in negotiation more than ever before. This provides a unique opportunity to contribute, through research, to daily activities of practitioners. From this research I hope to learn more about the negotiation process. In addition, I hope to provide a foundation to understand differences in groups of motor carriers and groups of shippers by the way that they negotiate transportation contracts.

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Sincerely,

Lloyd M. Rinehart
Ph.D. Student

DEPARTMENT OF MARKETING AND TRANSPORTATION
College of Business Administration
University of Tennessee
Knoxville, 37916
Telephone: (615) 974-5311

NEGOTIATION OF MOTOR CARRIER CONTRACTS

SHIPPER QUESTIONNAIRE

Instructions

This questionnaire is intended to collect information which pertains to the characteristics of your company, and the motor carrier with which you most recently negotiated a contract for transportation service. The questions are structured to elicit factual information about the participants and companies. In addition, some questions will request your perceptions of the negotiators and their respective organizations.

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Definitions

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Contract Motor Carriage - motor carrier movements which are developed through an explicit verbal or written agreement between a shipper and a motor carrier.

Man/hours - a unit of time used to assess the output of one or more people. (ex: 1 person working for six hours would be 6 man/hours, or two people working 3 hours each would be 6 man/hours.)

These questions are intended to address factual information about the participants and organizations which participated in the contract negotiations. Please circle the appropriate response to each question, or write in the appropriate answer as indicated.

1. How many organizations participated in the negotiation of this contract?

   a. 2
   b. 3
   c. 4 or more

2. Is this contract a verbal or written contract?

   a. verbal
   b. written

3. Did you require a group of carriers to submit bids prior to negotiating with this carrier?

   a. yes
   b. no

4. What duration of time will this contract cover?

   a. less than 30 days.
   b. 1 month - 6 months.
   c. 7 months - 1 year.
   d. 1 year - 5 years.
   e. more than 5 years.

5. Please circle the commodity classification which is most appropriate for the commodities covered in this contract.

   a. Appliances
   b. Automotive and Transport Equipment
   c. Building Materials
   d. Chemicals and Plastics
   e. Clothing and Textiles
   f. Computer Harware and Equipment
   g. Construction, Farm and Garden Equip.
   h. Department Store and or General Mdse.
   i. Electronics and Related Instruments
   j. Electrical Machinery
   k. Food and Beverage
   l. Furniture
   m. Hardware
   n. Machine Tools and Machinery
   o. Metal Products
   p. Mining and Minerals
   q. Office Equipment and Supplies
   r. Paper and Related Products
   s. Petroleum and Petrochemicals
   t. Pharmaceuticals, Drug and Toilet Products
   u. Rubber Products and Related Goods
   v. Other _____

6. How many members of your company participated in the direct discussions with the carrier?

   _____person/people

7. How many people in your company were responsible for collecting and/or analyzing the information used during the negotiations, including staff personnel?

   _____person/people

8. How many years of experience do you have negotiating transportation service contracts?

   _____years

9. This carrier makes up what percent of your total freight bill in this traffic lane

   _____%

10. What percent of your total volume (tonnage) in this traffic lane is hauled by this carrier?

    _____%

11. How many other carriers are there that provide competitive service in this traffic lane?

    _____carriers

12. How many carriers from other modes are there that provide competitive service in this traffic lane?

    _____carriers

13. How many people are employed in your company?

    a. 0 - 49
    b. 50 - 99
    c. 100 - 499
    d. 500 - 999
    e. 1000 - 4999
    f. over 5000

14. How many years has your company used contract motor carriage?

    a. less than 1 year.
    b. 1 - 5 years.
    c. 6 - 10 years.
    d. 11 - 15 years.
    e. 16 or more years.

15. Is this contract for truckload or less than truckload movements?

    ____TL ____LTL

16. Please circle the appropriate category which reflects your company's sales in 1984.

    a. $0 - 9,999,999
    b. $10,000,000 - 99,999,999
    c. $100,000,000 - 999,999,999
    d. $1,000,000,000 and above

17. Please circle the appropriate category which reflects the carrier's operating revenue in 1984.

    a. $0 - $999,999
    b. $1,000,000 - 4,999,999
    c. $5,000,000 - 9,999,999
    d. $10,000,000 - 99,999,999
    e. $100,000,000 and above.

18. Please circle the appropriate category from Trinc's Blue Book which reflects the classification of this carrier.

    a. General Commodities - Transcontinental
    b. General Commodities - Regional
    c. Specialized - Agricultural Products
    d. Specialized - Building Materials
    e. Specialized - Motor Vehicle Products
    f. Specialized - Petroleum Products
    g. Specialized - Refrigerated Products
    h. Specialized - Other Commodities

Motor Carrier Organizational Positions:

1. Operations Supervisor
2. Sales Representative
3. Operations Manager
4. Sales Manager
5. Operations Director
6. Sales/Marketing Director
7. Operations Vice President
8. Sales/Marketing Vice President
9. Executive Vice President
10. President

19. Using the position titles listed above, please list the number corresponding to the title of the individual who was the carrier's primary negotiator. _____

20. Using the position titles listed above, please list the number corresponding to the title of the individual who made the final decision over the terms of the contract for the shipper. _____

Shipper Organizational Positions:

1. Purchasing Agent
2. Traffic Analyst
3. Purchasing Manager
4. Traffic Manager
5. Procurement Director
6. Transportation Director
7. Vice President of Logistics
8. Executive Vice President
9. President

21. Using the position titles listed above please choose the title which is most appropriate for your current position. _____

22. Using the position titles listed above, please choose the title which is most appropriate for the person in your company which made the final decision over the terms of this contract. _____

23. Please circle the departments in your company which participated in the development of this contract.

a. marketing
b. research
c. purchasing
d. manufacturing
e. traffic
f. legal
g. other _____

The following questions address the characteristics of the process which you used to negotiate this contract.

24. How many man/hours were used by the people in your company collecting information (not including face to face meetings and telephone conversations with the carrier) which was pertinant to the contract and the negotiation participants? _____hrs.

25. Of the hours spent collecting information (not including face to face meetings and telephone conversations with the carrier) by your personnel, how many hours comprised information from materials inside of your company (ie: traffic lane reports, discussions with company personnel, etc.)? _____hrs.

26. Of the hours spent collecting information (not including face to face meetings and telephone conversations with the carrier) by your personnel, how many hours comprised information from materials and people outside of your company (ie: independent financial reports, discussions customers and competitors, etc.)? _____hrs.

27. How many times were the terms of the contract discussed with the carrier in face to face meetings? _____times

28. How many times were the terms of the contract discussed with the carrier through telephone conversations? _____times

29. How many weeks, passed between the point when the shipper or carrier first mentioned the possibility of contracting for transportation service, and the point of final agreement? _____weeks

30. At what rate (cwt) was the commodity of interest moving at prior to the agreement with the carrier? $_____

31. What is the rate (cwt) considered in this contract for the specified commodity? $_____

The following questions address your perceptions of the issues which may have influenced the discussions with the carrier and the resultant contract.

32. Listed below are several topics (with a basic description of each) which pertain to the elements of negotiation and the resulting contractual agreement. Please rank the topics by their level of importance to you prior to the first face to face meeting with the carrier's negotiator. (1 for the most important topic, 2 for the second most important topic, etc. If one or more of the topics was not considered, please put a zero in that space.)

	Column #1	Column #2
Commodity Characteristics: (Type of Freight, Density, Packaging, Perishability)	_____	_____
Volume Requirements: (Volume, Number of shipments, size of shipments)	_____	_____
Equipment Factors: (Type of Equipment, Condition of Equipment)	_____	_____
Service Requirements: (Transit Times, Pickup and Delivery, Loading & Unloading, Pallet Exchange, Palletized Loads, Expedited Shipments, Shipment Information and Tracing, Market Coverage, Traffic Lane offerings)	_____	_____
Rate Issues: (Initial Rates, Rate Modifications, TL Rates, LTL Rates, Per Truckload Rates, Any Quantity Rates)	_____	_____
Payment Terms: (Payment Period, Payment Recipent, Non-payment Penalties, Discounts, Extended Billing)	_____	_____
Liability and Insurance Factors: (Loss and Damage, Insurance Requirements, Force Majeur clause)	_____	_____
Exclusivity: (Restrictions on multiple customer shipments, ie: the carrier putting two customers shipments in the same trailer, Restrictions on competitor shipments)	_____	_____
Contract Duration: (Length of contract enforcement, escape clause)	_____	_____
Confidentiality: (Restrictions on discussion of the contract terms)	_____	_____
Personal Factors of the Shipper's Negotiators: (Personality, Knowledge, Experience, Integrity, Honesty, Professionalism)	_____	_____
Personal Factors of the Carrier's Negotiators: (Personality, Knowledge, Experience, Integrity, Honesty, Professionalism)	_____	_____

33. In column #2 above, please rank the topics by the amount of time spent by the members of your organization in collecting and analyzing the information. (ie: 1 would require the most time, 2 the second most time, etc. If one or more of the topics did not require preparation time mark it/them with a zero.)

34. Please circle the issue areas above which required revision after the contract had been drafted and submitted for approval by the negotiators.

The following questions address the way in which the important issues were discussed by the parties, and your perceptions of the results of the discussions on each topic.

35. Using the categories listed below, please list in column #1 the order of topics as they were discussed in the meeting(s) with the carrier (1 would be the first topic discussed, 2 the second topic discussed, etc. If some of the topics were not discussed mark a zero in the space).

	Column #1	Column #2	Column #3
Commodity Characteristics: (Type of Freight, Density, Packaging, Perishability)	_____	_____	_____
Volume Requirements: (Volume, Number of shipments, size of shipments)	_____	_____	_____
Equipment Factors: (Type of Equipment, Condition of Equipment)	_____	_____	_____
Service Requirements: (Transit Times, Pickup and Delivery, Loading & Unloading, Pallet Exchange, Palletized Loads, Expedited Shipments, Shipment Information and Tracing, Market Coverage, Traffic Lane offerings)	_____	_____	_____
Rate Issues: (Initial Rates, Rate Modifications, TL Rates, LTL Rates, Per Truckload Rates, Any Quantity Rates)	_____	_____	_____
Payment Terms: (Payment Period, Payment Recipent, Non-payment Penalties, Discounts, Extended Billing)	_____	_____	_____
Liability and Insurance Factors: (Loss and Damage, Insurance Requirements, Force Majeur clause)	_____	_____	_____
Exclusivity: (Restrictions on multiple customer shipments, ie: the carrier putting two customers shipments in the same trailer, Restrictions on competitor shipments)	_____	_____	_____
Contract Duration: (Length of contract enforcement, escape clause)	_____	_____	_____
Confidentiality: (Restrictions on discussion of the contract terms)	_____	_____	_____
Personal Factors of the Shipper's Negotiators: (Personality, Knowledge, Experience, Integrity, Honesty, Professionalism)	_____	_____	_____
Personal Factors of the Carrier's Negotiators: (Personality, Knowledge, Experience, Integrity, Honesty, Professionalism)	_____	_____	_____

36. In column #2 above, please indicate your perception of the concessions by the carrier which were made on topic discussed using the following scale:

0 - no concessions by the carrier
1 - moderate concessions by the carrier
2 - substantial concessions by the carrier

37. In column #3 above, please indicate your perception of the concessions which you made on each topic discussed using the following scale:

0 - no concessions by the shipper
1 - moderate concessions by the shipper
2 - substantial concessions by the shipper

The following statements refer to your perception of yourself, the other negotiator, and the resulting relationship between the two companies.

38. Please indicate your perception of the actions of the carrier's negotiator during the discussions over the contract.

	-3	-2	-1	0	1	2	3	
pessimistic	___	___	___	___	___	___	___	optimistic
impulsive	___	___	___	___	___	___	___	controlled
hostile	___	___	___	___	___	___	___	friendly
weak	___	___	___	___	___	___	___	strong
submissive	___	___	___	___	___	___	___	dominant
unsuccessful	___	___	___	___	___	___	___	successful

39. Please indicate your perception of <u>your</u> actions during the discussions with this carrier.

	-3	-2	-1	0	1	2	3	
pessimistic	___	___	___	___	___	___	___	optimistic
impulsive	___	___	___	___	___	___	___	controlled
hostile	___	___	___	___	___	___	___	friendly
weak	___	___	___	___	___	___	___	strong
submissive	___	___	___	___	___	___	___	dominant
unsuccessful	___	___	___	___	___	___	___	successful

40. Please indicate your perception of the dependence of your organization on the carrier.

No need for the carrier	1	2	3	4	5	6	7	8	9	10	Complete need for the carrier

41. Please indicate your perception of the dependence of the carrier on your organization.

No need for the shipper	1	2	3	4	5	6	7	8	9	10	Complete need for the shipper

42. The carrier felt my business would make a substantial contribution to his business.

Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
1	2	3	4	5

43. The contract with this carrier is necessary to meet my companies distribution objectives.

Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
1	2	3	4	5

44. In general, the carrier made more concessions to reach agreement over the terms of the contract than my company.

Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
1	2	3	4	5

The following questions pertain to provision contained within the contract. Please circle the appropriate response to each question, or write in the appropriate answer as indicated.

45. What percent of your total motor carrier freight bill moves under the terms provided in specific motor carrier contracts? _____%

46. Please indicate the states which contain the locations of the origin and destination of this traffic lane. (Mark the origin state with an O, and the destination state with an X. If both the origin and destination are in the same state please mark that state with a B.

____ Alabama	____ Montana
____ Alaska	____ Nebraska
____ Arizona	____ New Hampshire
____ Arkansas	____ New Hampshire
____ California	____ New Jersey
____ Colorada	____ New Mexico
____ Connecticut	____ New York
____ Delaware	____ North Carolina
____ Florida	____ North Dakota
____ Georgia	____ Ohio
____ Hawaii	____ Oklahoma
____ Idaho	____ Oregon
____ Illinois	____ Pennsylvania
____ Indiana	____ Rhode Island
____ Iowa	____ South Carolina
____ Kansas	____ South Dakota
____ Kentucky	____ Tennessee
____ Louisiana	____ Texas
____ Maine	____ Utah
____ Maryland	____ Vermont
____ Massachusetts	____ Virginia
____ Michigan	____ Washington
____ Minnesota	____ West Virginia
____ Mississippi	____ Wisconsin
____ Missouri	____ Wyoming

47. What is the minimum guaranteed weight for the carrier under the provisions of this contract?

_____lbs

48. Which organization prepared the written version of the contract, if the contract was documented in written form?

a. verbal agreement b. the carrier c. the shipper

49. Is the commodity considered in this contract inbound or outbound freight for your company.

_____ inbound _____ outbound

If you would like a summary of the results of this dissertation research, please include the name of your company, and a business address.

_____

_____

_____

APPENDIX D

MOTOR CARRIER RESPONSES

These questions are intended to address factual information about the participants and organizations which participated in the contract negotiations. Please circle the appropriate response to each question, or write in the appropriate answer as indicated.

1. How many organizations participated in the negotiation of this contract?

85% a. 2
7% b. 3 N = 103
8% c. 4 or more

2. Is this contract a verbal or written contract?

13% a. verbal N = 104
87% b. written

3. Did the shipper require a group of carriers to submit bids prior to negotiating this contract with your organization?

65% a. yes N = 103
35% b. no

4. What duration of time will this contract cover?

3% a. less than 30 days.
7% b. 1 month - 6 months.
30% c. 7 months - 1 year. N = 102
47% d. 1 year - 5 years.
11% e. more than 5 years.

5. Please circle the commodity classification which is most appropriate for the commodities covered in this contract.

0% a. Appliances
7% b. Automotive and Transport Equipment
8% c. Building Materials
11% d. Chemicals and Plastics
2% e. Clothing and Textiles
0% f. Computer Hardware and Equipment
0% g. Construction, Farm and Garden Equip.
10% h. Department Store and or General Mdse.
2% i. Electronics and Related Instruments
2% j. Electrical Machinery
22% k. Food and Beverage
0% l. Furniture N = 97
0% m. Hardware
1% n. Machine Tools and Machinery
6% o. Metal Products
2% p. Mining and Minerals
0% q. Office Equipment and Supplies
6% r. Paper and Related Products
4% s. Petroleum and Petrochemicals
1% t. Pharmaceuticals, Drug and Toilet Products
2% u. Rubber Products and Related Goods
11% v. Other _____

6. How many members of your company participated in the direct discussions with the shipper?

X = 2.135 N = 104 person/people
SD = 2.000

7. How many people in your company were responsible for collecting and/or analyzing the information used during the negotiations, including staff personnel?

X = 3.279 N = 104 person/people
SD = 4.943

8. How many years of experience do you have negotiating transportation service contracts?

X = 12.937 N = 103 years
SD = 9.838

9. This shipper makes up what percent of your total operating revenue in this traffic lane?

X = 28.479 N = 97 % SD = 30.643

10. What percent of your total volume (tonnage) in this traffic lane comprises this shipper's products?

X = 30.529 N = 95 % SD = 31.133

11. How many other shippers have commodities moving in this traffic lane with which you do not currently do business?

X = 13.000 N = 39 carriers SD = 23.129

12. How many carriers from other modes are there that provide competitive service in this traffic lane?

X = 13.833 N = 60 carriers SD = 24.718

13. How many people are employed in your company?

17% a. 0 - 49
24% b. 50 - 99
37% c. 100 - 499
10% d. 500 - 999 N = 104
11% e. 1000 - 4999
1% f. over 5000

14. How many years has your company provided contract motor carriage service?

4% a. less than 1 year.
30% b. 1 - 5 years.
7% c. 6 - 10 years. N = 104
9% d. 11 - 15 years.
49% e. 16 or more years.

15. Is this contract for truckload or less than truckload movements?

67% TL 14% LTL 18% Both N = 104

16. Please circle the appropriate category which reflects your operating revenue in 1984.

0% a. $0 - $999,999
28% b. $1,000,000 - 4,999,999
23% c. $5,000,000 - 9,999,999 N = 104
47% d. $10,000,000 - 99,999,999
2% e. $100,000,000 and above.

17. Please circle the appropriate category which reflects the shipper's sales in 1984.

13% a. $0 - 9,999,999
18% b. $10,000,000 - 99,999,999
30% c. $100,000,000 - 999,999,999 N = 98
39% d. $1,000,000,000 and above

18. Please circle the appropriate category from Trinc's Blue Book of the Trucking Industry which reflects the classification of your organization.

21% a. General Commodities - Transcontinental
39% b. General Commodities - Regional
3% c. Specialized - Agricultural Products
6% d. Specialized - Building Materials
2% e. Specialized - Motor Vehicle Products N = 104
6% f. Specialized - Petroleum Products
11% g. Specialized - Refrigerated Products
12% h. Specialized - Other Commodities

Shipper Organizational Positions:

1. Purchasing Agent
2. Traffic Analyst
3. Purchasing Manager
4. Traffic Manager
5. Procurement Director
6. Transportation Director
7. Vice President of Logistics
8. Executive Vice President
9. President

19. Using the position titles listed above, please list the number corresponding to the title of the individual who was the shipper's primary negotiator.
X = 5.115
SD = 1.927
N = 104

20. Using the position titles listed above, please list the number corresponding to the title of the individual who made the final decision over the terms of the contract for the shipper.
X = 6.119
SD = 1.951
N = 101

Motor Carrier Organizational Positions:

1. Operations Supervisor
2. Sales Representative
3. Operations Manager
4. Sales Manager
5. Operations Director
6. Sales/Marketing Director
7. Operations Vice President
8. Sales/Marketing Vice President
9. Executive Vice President
10. President

21. Using the position titles listed above please choose the title which is most appropriate for your current position.
X = 7.660
SD = 2.440
N = 104

22. Using the position titles listed above, please choose the title which is most appropriate for the person in your company which made the final decision over the terms of this contract.
X = 8.558
SD = 2.276
N = 104

23. Please circle the departments in your company which participated in the development of this contract.

53% N = 104		4% N = 104		60% N = 104			
a.	marketing	c.	purchasing	e.	traffic	g.	other 12% N = 104
b.	research	d.	operations	f.	legal		
12% N = 104		74% N = 104		19% N = 104			

The following questions address the characteristics of the process which you used to negotiate this contract.

24. How many man/hours were used by the people in your company collecting information (not including face to face meetings and telephone conversations with the shipper) which was pertinant to the contract and the negotiation participants?
X = 39.669
SD = 101.469
N = 103 hrs.

25. Of the hours spent collecting information (not including face to face meetings and telephone conversations with the shipper) by your personnel, how many hours comprised information from materials inside of your company (ie: traffic lane reports, discussions with company personnel, etc.)?
X = 30.873
SD = 93.514
N = 102 hrs.

26. Of the hours spent collecting information (not including face to face meetings and telephone conversations with the shipper) by your personnel, how many hours comprised information from materials and people outside of your company (ie: independent financial reports, discussions customers and competitors, etc.)?
X = 6.706
SD = 15.377
N = 97 hrs.

27. How many times were the terms of the contract discussed with the shipper in face to face meetings?
X = 2.958
SD = 2.306
N = 95 times

28. How many times were the terms of the contract discussed with the shipper through telephone conversations?
X = 6.032
SD = 6.901
N = 94 times

29. How many weeks, passed between the point when the shipper or carrier first mentioned the possibility of contracting for transportation service, and the point of final agreement?
X = 11.167
SD = 15.020
N = 102 weeks

30. Prior to this contract, what was your company's average tonnage/month in this traffic lane?
X = 24,486,163.2
SD = 78,556,059.7
N = 56 lbs

31. Since this contract became effective, what was your company's average tonnage/month in this traffic lane?
X = 34,935,089.4
SD = 15,081,804.0
N = 69 lbs

31A.
X = 859,762.68
SD = 4,448,373.39
N = 64

The following questions address your perceptions of the issues which may have influenced the discussions with the shipper and the resultant contract.

32. Listed below are several topics (with a basic description of each) which pertain to the elements of negotiation and the resulting contractual agreement. Please rank the topics by their level of importance to you prior to the first face to face meeting with the shipper's negotiator. (1 for the most important topic, 2 for the second most important topic, etc. If one or more of the topics was not considered, please put a zero in that space.)

		Column #1 Reverse Coded	Column #2
Commodity Characteristics: (Type of Freight, Density, Packaging, Perishability)	X	8.349	8.695
	SD	2.804	2.145
	N	83	64
Volume Requirements: (Volume, Number of shipments, size of shipments)	X	9.772	9.829
	SD	2.001	1.671
	N	92	82
Equipment Factors: (Type of Equipment, Condition of Equipment)	X	7.747	8.373
	SD	2.230	2.111
	N	93	86
Service Requirements: (Transit Times, Pickup and Delivery, Loading & Unloading, Pallet Exchange, Palletized Loads, Expedited Shipments, Shipment Information and Tracing, Market Coverage, Traffic Lane offerings)	X	9.559	10.105
	SD	2.182	2.068
	N	93	86
Rate Issues: (Initial Rates, Rate Modifications, TL Rates, LTL Rates, Per Truckload Rates, Any Quantity Rates)	X	10.479	10.995
	SD	1.951	1.609
	N	95	94
Payment Terms: (Payment Period, Payment Recipent, Non-payment Penalties, Discounts, Extended Billing)	X	6.907	6.768
	SD	3.350	2.029
	N	81	56
Liability and Insurance Factors: (Loss and Damage, Insurance Requirements, Force Majeur clause)	X	6.313	6.588
	SD	4.155	2.299
	N	80	60
Exclusivity: (Restrictions on multiple customer shipments, ie: the carrier putting two customers shipments in the same trailer, Restrictions on competitor shipments)	X	5.642	6.056
	SD	4.359	2.369
	N	53	36
Contract Duration: (Length of contract enforcement, escape clause)	X	5.805	6.509
	SD	3.566	2.173
	N	79	54
Confidentiality: (Restrictions on discussion of the contract terms)	X	4.850	4.750
	SD	4.128	2.520
	N	60	34
Personal Factors of the Carrier's Negotiators: (Personality, Knowledge, Experience, Integrity, Honesty, Professionalism)	X	5.551	4.708
	SD	3.119	2.162
	N	59	24
Personal Factors of the Shipper's Negotiators: (Personality, Knowledge, Experience, Integrity, Honesty, Professionalism)	X	5.963	5.059
	SD	3.985	2.501
	N	67	34

32A. X = 9.510 SD = 2.741 N = 96

33. In column #2 above, please rank the topics by the amount of time spent by the members of your organization in collecting and analyzing the information. (ie: 1 would require the most time, 2 the second most time, etc. If one or more of the topics did not require preparation time mark it/them with a zero.)

34. Please circle the topics above which required revision after the contract had been drafted and submitted for approval by the negotiators.

The following questions address the way in which the important issues were discussed by the parties, and your perceptions of the results of the discussions on each topic.

35. Using the categories listed below, please list in column #1 the order of topics as they were discussed in the meeting(s) with the shipper (1 would be the first topic discussed, 2 the second topic discussed, etc. If some of the topics were not discussed mark a zero in the space).

		Column #1	Column #2 Reverse Coded	Column #3
Commodity Characteristics: (Type of Freight, Density, Packaging, Perishability)	X	8.712	.059	.108
	SD	2.648	.283	.383
	N	78	85	83
Volume Requirements: (Volume, Number of shipments, size of shipments)	X	9.874	.483	.453
	SD	1.791	.659	.587
	N	91	89	86
Equipment Factors: (Type of Equipment, Condition of Equipment)	X	8.753	.341	.349
	SD	2.034	.589	.572
	N	91	90	88
Service Requirements: (Transit Times, Pickup and Delivery, Loading & Unloading, Pallet Exchange, Palletized Loads, Expedited Shipments, Shipment Information and Tracing, Market Coverage, Traffic Lane offerings)	X	10.817	.456	.580
	SD	1.706	.603	.673
	N	91	90	88
Rate Issues: (Initial Rates, Rate Modifications, TL Rates, LTL Rates, Per Truckload Rates, Any Quantity Rates)	X	9.872	.716	1.044
	SD	2.182	.521	.624
	N	94	92	90
Payment Terms: (Payment Period, Payment Recipent, Non-payment Penalties, Discounts, Extended Billing)	X	6.308	.333	.442
	SD	1.996	.564	.644
	N	73	87	86
Liability and Insurance Factors: (Loss and Damage, Insurance Requirements, Force Majeur clause)	X	6.587	.200	.165
	SD	2.022	.483	.459
	N	75	85	85
Exclusivity: (Restrictions on multiple customer shipments, ie: the carrier putting two customers shipments in the same trailer, Restrictions on competitor shipments)	X	6.061	.346	.247
	SD	2.278	.616	.560
	N	41	81	81
Contract Duration: (Length of contract enforcement, escape clause)	X	6.601	.488	.372
	SD	2.229	.586	.575
	N	79	87	86
Confidentiality: (Restrictions on discussion of the contract terms)	X	5.793	.244	.134
	SD	2.544	.579	.343
	N	46	82	82
Personal Factors of the Carrier's Negotiators: (Personality, Knowledge, Experience, Integrity, Honesty, Professionalism)	X	4.596	.051	.026
	SD	2.565	.274	.159
	N	26	78	78
Personal Factors of the Shipper's Negotiators: (Personality, Knowledge, Experience, Integrity, Honesty, Professionalism)	X	4.426	.051	.026
	SD	3.005	.274	.160
	N	27	78	77

35A.
X = 8.394
SD = 2.406 N = 94

36. In column #2 above, please indicate your perception of the concessions by the shipper which were made on each topic discussed using the following scale:

36A.
X = 3.000
SD = 2.162
N = 93

0 - no concessions by the shipper
1 - moderate concessions by the shipper
2 - substantial concessions by the shipper

37. In column #3 above, please indicate your perception of the concessions which you made on each topic discussed using the following scale:

37A.
X = 3.032
SD = 2.224
N = 93

0 - no concessions by the carrier
1 - moderate concessions by the carrier
2 - substantial concessions by the carrier

The following statements refer to your perception of yourself, the other negotiator, and the resulting relationship between the two companies.

38. Please indicate your perception of the actions of the shipper's negotiator during the discussions over the contract.

	-3	-2	-1	0	1	2	3	
pessimistic	X = 1.693	SD = 1.247	N = 101					optimistic
impulsive	X = 1.500	SD = 1.322	N = 100					controlled
hostile	X = 1.980	SD = 1.149	N = 101					friendly
weak	X = 1.847	SD = 2.387	N = 98					strong
submissive	X = 1.122	SD = 1.028	N = 98					dominant
unsuccessful	X = 1.502	SD = 1.041	N = 98					successful

39. Please indicate your perception of your actions during the discussions with this shipper.

	-3	-2	-1	0	1	2	3	
pessimistic	X = 2.060	SD = 1.108	N = 100					optimistic
impulsive	X = 1.810	SD = 1.070	N = 100					controlled
hostile	X = 2.168	SD = 1.096	N = 101					friendly
weak	X = 1.796	SD = 1.025	N = 98					strong
submissive	X = .929	SD = 1.086	N = 98					dominant
unsuccessful	X = 1.867	SD = 1.061	N = 98					successful

40. Please indicate your perception of the dependence of your organization on the shipper.

No need for the shipper	1	2	3	4	5	6	7	8	9	10	Complete need for the shipper
	X = 5.147 SD = 2.569 N = 102										

41. Please indicate your perception of the dependence of the shipper on your organization.

No need for the carrier	1	2	3	4	5	6	7	8	9	10	Complete need for the carrier
	X = 4.520 SD = 2.412 N = 102										

42. The shipper felt our carrier service would make a substantial contribution to his business.

Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
1	2	3	4	5

X = 4.165 SD = .658 N = 103 Reverse Coded

43. The contract with this shipper is necessary to meet my companies objectives.

Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
1	2	3	4	5

X = 3.835 SD = .818 N = 103 Reverse Coded

44. In general, the shipper made more concessions to reach agreement over the terms of the contract than my company.

Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
1	2	3	4	5

X = 2.796 SD = .797 N = 103 Reverse Coded

The following questions pertain to provision contained within the contract. Please circle the appropriate response to each question, or write in the appropriate answer as indicated.

45. What percent of your total motor carrier freight bill moves under the terms provided in specific motor carrier contracts?

X = 40.876
SD = 35.356
N = 97 %

46. Please indicate the states which contain the locations of the origin and destination of this traffic lane. (Mark the origin state with an O, and the destination state with an X. If both the origin and destination are in the same state please mark that state with a B.

____ Alabama
____ Alaska
____ Arizona
____ Arkansas
____ California
____ Colorada
____ Connecticut
____ Delaware
____ Florida
____ Georgia
____ Hawaii
____ Idaho
____ Illinois
____ Indiana
____ Iowa
____ Kansas
____ Kentucky
____ Louisiana
____ Maine
____ Maryland
____ Massachusetts
____ Michigan
____ Minnesota
____ Mississippi
____ Missouri
____ Montana
____ Nebraska
____ New Hampshire
____ New Hampshire
____ New Jersey
____ New Mexico
____ New York
____ North Carolina
____ North Dakota
____ Ohio
____ Oklahoma
____ Oregon
____ Pennsylvania
____ Rhode Island
____ South Carolina
____ South Dakota
____ Tennessee
____ Texas
____ Utah
____ Vermont
____ Virginia
____ Washington
____ West Virginia
____ Wisconsin
____ Wyoming

47. What is the minimum guaranteed weight for the carrier under the provisions of this contract?

X = 7,491,023 lbs SD = 36,800,086 N = 84

48. Which organization prepared the written version of the contract, if the contract was documented in written form?

7% a. verbal agreement
57% b. the carrier
35% c. the shipper
N = 103

49. Is the commodity considered in this contract inbound or outbound freight for your company.

16% inbound 50% outbound 33% Both N = 99

If you would like a summary of the results of this dissertation research, please include the name of your company, and a business address.

APPENDIX E

SHIPPER RESPONSES

These questions are intended to address factual information about the participants and organizations which participated in the contract negotiations. Please circle the appropriate response to each question, or write in the appropriate answer as indicated.

1. How many organizations participated in the negotiation of this contract?

80% a. 2
3% b. 3 N = 258
17% c. 4 or more

2. Is this contract a verbal or written contract?

19% a. verbal N = 260
81% b. written

3. Did you require a group of carriers to submit bids prior to negotiating with this carrier?

63% a. yes N = 260
37% b. no

4. What duration of time will this contract cover?

5% a. less than 30 days.
6% b. 1 month - 6 months.
40% c. 7 months - 1 year. N = 257
44% d. 1 year - 5 years.
4% e. more than 5 years.

5. Please circle the commodity classification which is most appropriate for the commodities covered in this contract.

2% a. Appliances
4% b. Automotive and Transport Equipment
2% c. Building Materials
9% d. Chemicals and Plastics
4% e. Clothing and Textiles
2% f. Computer Harware and Equipment
1% g. Construction, Farm and Garden Equip.
8% h. Department Store and or General Mdse.
7% i. Electronics and Related Instruments
2% j. Electrical Machinery
18% k. Food and Beverage
2% l. Furniture N = 257
2% m. Hardware
2% n. Machine Tools and Machinery
5% o. Metal Products
1% p. Mining and Minerals
2% q. Office Equipment and Supplies
6% r. Paper and Related Products
1% s. Petroleum and Petrochemicals
7% t. Pharmaceuticals, Drug and Toilet Products
1% u. Rubber Products and Related Goods
14% v. Other _____

6. How many members of your company participated in the direct discussions with the carrier?

X = 2.162 N = 260 person/people
SD = 1.741

7. How many people in your company were responsible for collecting and/or analyzing the information used during the negotiations, ~~including staff~~ personnel?

X = 2.369 N = 260 person/people
SD = 1.628

8. ~~How many~~ years of experience do you have negotiating transportation service contracts?

X = 9.682 N = 258 years
SD = 8.161

9. This carrier makes up what percent of your total freight bill in this traffic lane

X = 48.671 % N = 250 SD = 34.068

10. What percent of your total volume (tonnage) in this traffic lane is hauled by this carrier?

X = 54.257 % N = 247 SD = 34.949

11. How many other carriers are there that provide competitive service in this traffic lane?

X = 9.659 carriers N = 227 SD = 15.811

12. How many carriers from other modes are there that provide competitive service in this traffic lane?

X = 7.984 carriers N = 123 SD = 15.380

13. How many people are employed in your company?

2% a. 0 - 49
2% b. 50 - 99
19% c. 100 - 499
10% d. 500 - 999 N = 258
34% e. 1000 - 4999
33% f. over 5000

14. How many years has your company used contract motor carriage?

5% a. less than 1 year.
53% b. 1 - 5 years.
16% c. 6 - 10 years. N = 257
5% d. 11 - 15 years.
20% e. 16 or more years.

15. Is this contract for truckload or less than truckload movements?

55% TL 34% LTL 11% Both N = 259

16. Please circle the appropriate category which reflects your company's sales in 1984.

3% a. $0 - 9,999,999
21% b. $10,000,000 - 99,999,999 N = 254
47% c. $100,000,000 - 999,999,999
29% d. $1,000,000,000 and above

17. Please circle the appropriate category which reflects the carrier's operating revenue in 1984.

10% a. $0 - $999,999
15% b. $1,000,000 - 4,999,999
15% c. $5,000,000 - 9,999,999 N = 241
32% d. $10,000,000 - 99,999,999
29% e. $100,000,000 and above.

18. Please circle the appropriate category from Trinc's Blue Book which reflects the classification of this carrier.

49% a. General Commodities - Transcontinental
28% b. General Commodities - Regional
2% c. Specialized - Agricultural Products
1% d. Specialized - Building Materials N = 250
1% e. Specialized - Motor Vehicle Products
8% f. Specialized - Petroleum Products
10% g. Specialized - Refrigerated Products
1% h. Specialized - Other Commodities

Motor Carrier Organizational Positions:

1. Operations Supervisor
2. Sales Representative
3. Operations Manager
4. Sales Manager
5. Operations Director
6. Sales/Marketing Director
7. Operations Vice President
8. Sales/Marketing Vice President
9. Executive Vice President
10. President

19. Using the position titles listed above, please list the number corresponding to the title of the individual who was the carrier's primary negotiator.

X = 6.376
SD = 2.830
N = 258

20. Using the position titles listed above, please list the number corresponding to the title of the individual who made the final decision over the terms of the contract for the shipper.

X = 6.896
SD = 2.511
N = 249

Shipper Organizational Positions:

1. Purchasing Agent
2. Traffic Analyst
3. Purchasing Manager
4. Traffic Manager
5. Procurement Director
6. Transportation Director
7. Vice President of Logistics
8. Executive Vice President
9. President

21. Using the position titles listed above please choose the title which is most appropriate for your current position.

X = 4.688
SD = 1.460
N = 260

22. Using the position titles listed above, please choose the title which is most appropriate for the person in your company which made the final decision over the terms of this contract.

X = 5.217
SD = 1.444
N = 258

23. Please circle the departments in your company which participated in the development of this contract.

10% N = 260 a. marketing
11% N = 260 c. purchasing
92% N = 260 e. traffic
1% N = 260 b. research
11% N = 260 d. manufacturing
30% N = 260 f. legal
g. other 10% N = 260

The following questions address the characteristics of the process which you used to negotiate this contract.

24. How many man/hours were used by the people in your company collecting information (not including face to face meetings and telephone conversations with the carrier) which was pertinant to the contract and the negotiation participants?

X = 40.888
SD = 99.500
N = 256 hrs.

25. Of the hours spent collecting information (not including face to face meetings and telephone conversations with the carrier) by your personnel, how many hours comprised information from materials inside of your company (ie: traffic lane reports, discussions with company personnel, etc.)?

X = 29.646
SD = 88.592
N = 256 hrs.

26. Of the hours spent collecting information (not including face to face meetings and telephone conversations with the carrier) by your personnel, how many hours comprised information from materials and people outside of your company (ie: independent financial reports, discussions customers and competitors, etc.)?

X = 11.028
SD = 29.222
N = 254 hrs.

27. How many times were the terms of the contract discussed with the carrier in face to face meetings?

X = 3.135
SD = 3.045
N = 238 times

28. How many times were the terms of the contract discussed with the carrier through telephone conversations?

X = 5.043
SD = 5.165
N = 259 times

29. How many weeks, passed between the point when the shipper or carrier first mentioned the possibility of contracting for transportation service, and the point of final agreement?

X = 8.819
SD = 8.465
N = 259 weeks

30. At what rate (cwt) was the commodity of interest moving at prior to the agreement with the carrier?

X = 10.024
SD = 23.958
$N = 122

31. What is the rate (cwt) considered in this contract for the specified commodity?

X = 11.317
$SD = 55.376
N = 123

31A.

X = .796
SD = .288
N = 174

The following questions address your perceptions of the issues which may have influenced the discussions with the carrier and the resultant contract.

32. Listed below are several topics (with a basic description of each) which pertain to the elements of negotiation and the resulting contractual agreement. Please rank the topics by their level of importance to you prior to the first face to face meeting with the carrier's negotiator. (1 for the most important topic, 2 for the second most important topic, etc. If one or more of the topics was not considered, please put a zero in that space.)

		Column #1 Reverse Coded	Column #2
Commodity Characteristics: (Type of Freight, Density, Packaging, Perishability)	X	7.396	8.141
	SD	2.564	2.447
	N	201	149
Volume Requirements: (Volume, Number of shipments, size of shipments)	X	8.482	9.736
	SD	2.022	2.103
	N	224	212
Equipment Factors: (Type of Equipment, Condition of Equipment)	X	8.026	8.150
	SD	2.437	2.370
	N	215	169
Service Requirements: (Transit Times, Pickup and Delivery, Loading & Unloading, Pallet Exchange, Palletized Loads, Expedited Shipments, Shipment Information and Tracing, Market Coverage, Traffic Lane offerings)	X	10.852	10.430
	SD	1.763	1.978
	N	244	233
Rate Issues: (Initial Rates, Rate Modifications, TL Rates, LTL Rates; Per Truckload Rates, Any Quantity Rates)	X	10.713	10.847
	SD	1.395	1.780
	N	246	243
Payment Terms: (Payment Period, Payment Recipent, Non-payment Penalties, Discounts, Extended Billing)	X	5.339	6.408
	SD	2.498	2.599
	N	189	126
Liability and Insurance Factors: (Loss and Damage, Insurance Requirements, Force Majeur clause)	X	7.444	7.401
	SD	2.216	2.222
	N	224	166
Exclusivity: (Restrictions on multiple customer shipments, ie: the carrier putting two customers shipments in the same trailer, Restrictions on competitor shipments)	X	4.992	5.444
	SD	2.911	2.706
	N	123	79
Contract Duration: (Length of contract enforcement, escape clause)	X	6.000	6.510
	SD	2.255	2.229
	N	199	124
Confidentiality: (Restrictions on discussion of the contract terms)	X	4.828	4.185
	SD	2.331	2.012
	N	157	78
Personal Factors of the Shipper's Negotiators: (Personality, Knowledge, Experience, Integrity, Honesty, Professionalism)	X	5.061	4.836
	SD	2.799	2.667
	N	139	64
Personal Factors of the Carrier's Negotiators: (Personality, Knowledge, Experience, Integrity, Honesty, Professionalism)	X	6.316	5.786
	SD	7.290	2.925
	N	192	99

32A. X = 9.537 SD = 2.439 N = 246

33. In column #2 above, please rank the topics by the amount of time spent by the members of your organization in collecting and analyzing the information. (ie: 1 would require the most time, 2 the second most time, etc. If one or more of the topics did not require preparation time mark it/them with a zero.)

34. Please circle the issue areas above which required revision after the contract had been drafted and submitted for approval by the negotiators.

The following questions address the way in which the important issues were discussed by the parties, and your perceptions of the results of the discussions on each topic.

35. Using the categories listed below, please list in column #1 the order of topics as they were discussed in the meeting(s) with the carrier (1 would be the first topic discussed, 2 the second topic discussed, etc. If some of the topics were not discussed mark a zero in the space).

		Column #1	Column #2 Reverse Coded	Column #3
Commodity Characteristics: (Type of Freight, Density, Packaging, Perishability)	X	9.215	.193	.106
	SD	2.305	.514	.505
	N	213	223	226
Volume Requirements: (Volume, Number of shipments, size of shipments)	X	9.956	.578	.390
	SD	2.503	.724	.577
	N	239	230	236
Equipment Factors: (Type of Equipment, Condition of Equipment)	X	8.641	.437	.164
	SD	2.219	.688	.417
	N	197	222	224
Service Requirements: (Transit Times, Pickup and Delivery, Loading & Unloading, Pallet Exchange, Palletized Loads, Expedited Shipments, Shipment Information and Tracing, Market Coverage, Traffic Lane offerings)	X	10.487	.833	.276
	SD	1.669	.695	.494
	N	241	234	232
Rate Issues: (Initial Rates, Rate Modifications, TL Rates, LTL Rates, Per Truckload Rates, Any Quantity Rates)	X	9.801	1.478	.584
	SD	2.156	.597	.558
	N	251	247	238
Payment Terms: (Payment Period, Payment Recipent, Non-payment Penalties, Discounts, Extended Billing)	X	5.913	.431	.254
	SD	2.192	.609	.476
	N	186	225	224
Liability and Insurance Factors: (Loss and Damage, Insurance Requirements, Force Majeur clause)	X	7.117	.269	.124
	SD	1.903	.567	.369
	N	211	227	225
Exclusivity: (Restrictions on multiple customer shipments, ie: the carrier putting two customers shipments in the same trailer, Restrictions on competitor shipments)	X	4.790	.146	.109
	SD	2.613	.425	.340
	N	100	219	220
Contract Duration: (Length of contract enforcement, escape clause)	X	6.338	.532	.247
	SD	1.982	.684	.472
	N	209	222	223
Confidentiality: (Restrictions on discussion of the contract terms)	X	4.557	.170	.032
	SD	2.016	.493	.176
	N	127	218	219
Personal Factors of the Shipper's Negotiators: (Personality, Knowledge, Experience, Integrity, Honesty, Professionalism)	X	4.543	.074	.044
	SD	2.538	.344	.250
	N	70	203	203
Personal Factors of the Carrier's Negotiators: (Personality, Knowledge, Experience, Integrity, Honesty, Professionalism)	X	4.494	.084	.059
	SD	2.667	.356	.293
	N	90	203	202

35A. X = 8.480 SD = 2.505 N = 250

36. In column #2 above, please indicate your perception of the concessions by the carrier which were made on topic discussed using the following scale:

36A.
X = 3.624
SD = 2.072
N = 245

0 - no concessions by the carrier
1 - moderate concessions by the carrier
2 - substantial concessions by the carrier

37. In column #3 above, please indicate your perception of the concessions which you made on each topic discussed using the following scale:

37A.
X = 2.050
SD = 1.776
N = 241

0 - no concessions by the shipper
1 - moderate concessions by the shipper
2 - substantial concessions by the shipper

The following statements refer to your perception of yourself, the other negotiator, and the resulting relationship between the two companies.

38. Please indicate your perception of the actions of the carrier's negotiator during the discussions over the contract.

	-3	-2	-1	0	1	2	3	
pessimistic	X = 1.901 SD = 1.015 N = 252				____	____	____	optimistic
impulsive	X = 1.553 SD = 1.177 N = 254				____	____	____	controlled
hostile	X = 2.130 SD = .961 N = 253				____	____	____	friendly
weak	X = 1.275 SD = 1.114 N = 251				____	____	____	strong
submissive	X = .356 SD = 1.005 N = 250				____	____	____	dominant
unsuccessful	X = 1.506 SD = 1.093 N = 255				____	____	____	successful

39. Please indicate your perception of your actions during the discussions with this carrier.

	-3	-2	-1	0	1	2	3	
pessimistic	X = 1.949 SD = 1.003 N = 254				____	____	____	optimistic
impulsive	X = 1.996 SD = .962 N = 255				____	____	____	controlled
hostile	X = 1.895 SD = 1.074 N = 256				____	____	____	friendly
weak	X = 1.861 SD = .932 N = 252				____	____	____	strong
submissive	X = 1.344 SD = 1.034 N = 250				____	____	____	dominant
unsuccessful	X = 2.173 SD = .858 N = 254				____	____	____	successful

40. Please indicate your perception of the dependence of your organization on the carrier.

No need for the carrier 1 2 3 4 5 6 7 8 9 10 Complete need for the carrier

X = 4.483 SD = 2.355 N = 259

41. Please indicate your perception of the dependence of the carrier on your organization.

No need for the shipper 1 2 3 4 5 6 7 8 9 10 Complete need for the shipper

X = 4.900 SD = 2.359 N = 259

42. The carrier felt my business would make a substantial contribution to his business.

Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
1	2	3	4	5

X = 4.202 SD = .721 N = 258 Reverse Coded

43. The contract with this carrier is necessary to meet my companies distribution objectives.

Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
1	2	3	4	5

X = 3.745 SD = .934 N = 259 Reverse Coded

44. In general, the carrier made more concessions to reach agreement over the terms of the contract than my company.

Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
1	2	3	4	5

X = 3.792 SD = .695 N = 259 Reverse Coded

The following questions pertain to provision contained within the contract. Please circle the appropriate response to each question, or write in the appropriate answer as indicated.

45. What percent of your total motor carrier freight bill moves under the terms provided in specific motor carrier contracts?

X = 38.412
SD = 30.342
N = 250%

46. Please indicate the states which contain the locations of the origin and destination of this traffic lane. (Mark the origin state with an O, and the destination state with an X. If both the origin and destination are in the same state please mark that state with a B.

____ Alabama	____ Montana
____ Alaska	____ Nebraska
____ Arizona	____ New Hampshire
____ Arkansas	____ New Hampshire
____ California	____ New Jersey
____ Colorado	____ New Mexico
____ Connecticut	____ New York
____ Delaware	____ North Carolina
____ Florida	____ North Dakota
____ Georgia	____ Ohio
____ Hawaii	____ Oklahoma
____ Idaho	____ Oregon
____ Illinois	____ Pennsylvania
____ Indiana	____ Rhode Island
____ Iowa	____ South Carolina
____ Kansas	____ South Dakota
____ Kentucky	____ Tennessee
____ Louisiana	____ Texas
____ Maine	____ Utah
____ Maryland	____ Vermont
____ Massachusetts	____ Virginia
____ Michigan	____ Washington
____ Minnesota	____ West Virginia
____ Mississippi	____ Wisconsin
____ Missouri	____ Wyoming

47. What is the minimum guaranteed weight for the carrier under the provisions of this contract?

X = 5,958,443 lbs SD = 37,041,338 N = 221

48. Which organization prepared the written version of the contract, if the contract was documented in written form?

14% a. verbal agreement 59% b. the carrier 27% c. the shipper N = 241

49. Is the commodity considered in this contract inbound or outbound freight for your company.

16% inbound 56% outbound 28% Both N = 255

If you would like a summary of the results of this dissertation research, please include the name of your company, and a business address.

_____

_____

_____

_____

APPENDIX F

DISCRIMINANT ANALYSIS RESULTS

Table F - 1. Discriminant Analysis of Motor Carriers by Organizational Size. (Group Hypothesis #1) (3 Groups, N = 104)

	Function	Chi-squared	D.F.	Significance	Tests of Group Convariance Matrix Equivalence F	Significance	Confusion Matrix Prediction Percentage
Personal	1	16.208	8	.039[a b]	1.024	.428	56%
Environment	2	1.884	3	.596			
Organizational	1	9.637	4	.047[a b]	4.520	.001	52%
Environment	2	4.496	1	.034			-
Negotiation	1	25.164	12	.014[b]	.731	.722	60%
Potential	2	4.175	5	.525			-
Negotiation	1	3.967	8	.860	3.223	.001	-
Preparation	2	.570	3	.903			-
Negotiation	1	12.030	8	.149	1.181	.259	-
Interaction	2	2.799	3	.423			-
Negotiation	1	6.698	6	.349	15.832	.001	-
Outcome	2	1.186	2	.552			-

Table F-1. (Continued)

	Function	Chi-squared	D.F.	Significance	Equivalence F	Equivalence Significance	Percentage
Temporal	1	4.232	6	.645	3.814	.001	-
Dimension	2	.809	2	.667	-	-	-

[a]Use of Stepwise Analysis.

[b]Significant at the .05 level.

Table F - 2. Discriminant Analysis of Shippers of Organization Size. (Group Hypothesis #2) (3 Groups, N = 262)

	Function	Chi-squared	D.F.	Significance	Test of Group Convariance Matrix Equivalence F	Significance	Confusion Matrix Prediction Percentage
Personal	1	15.076	14	.373	1.472	.012	-
Environment	2	5.302	6	.506	-	-	-
Organizational	1	20.871	12	.052[b]	1.738	.002	45%
Environment	2	4.459	5	.485	-	-	-
Negotiation	1	14.355	6	.026[a b]	.680	.773	18%
Potential	2	3.727	2	.155	-	-	-
Negotiation	1	8.242	2	.016[a b]	1.916	.148	45%
Preparation	-	-	-	-	-	-	-
Negotiation	1	10.433	8	.236	1.219	.226	-
Interaction	2	.986	3	.805	-	-	-
Negotiation	1	10.721	6	.097	12.812	.001	-
Outcome	2	3.848	2	.146	-	-	-

Table F - 2. (Continued)

	Function	Chi-squared	D.F.	Significance	Tests of Group Convariance Matrix Equivalence F	Significance	Confusion Matrix Prediction Percentage
Temporal	1	9.120	6	.197	3.817	.001	-
Dimension	2	2.110	2	.348	-	-	-

[a]Use of Stepwide Analysis.

[b]Significant at the .05 level.

Table F - 3. Discriminant Analysis of Motor Carriers by Contract Experience. (Group Hypothesis #3) (3 Groups, N = 104)

	Function	Chi-squared	D.F.	Significance	Test of Group Convariance Matrix Equivalence F	Significance	Confusion Matrix Prediction Percentage
Personal	1	32.187	14	.004[b]	1.604	.003	57%
Environment	2	4.544	6	.604	-	-	-
Organizational	1	15.233	6	.019[a b]	3.356	.001	40%
Environment	2	5.429	2	.066	-	-	-
Negotiation	1	13.067	12	.364	1.781	.002	-
Potential	2	3.513	5	.621	-	-	-
Negotiation	1	6.359	8	.603	2.635	.001	-
Preparation	2	2.266	3	.519	-	-	-
Negotiation	1	8.270	8	.408	1.258	.196	-
Interaction	2	2.896	3	.408	-	-	-
Negotiation	1	4.733	6	.578	9.623	.001	-
Outcome	2	.694	2	.707	-	-	-

Table F - 3. (Continued)

	Function	Chi-squared	D.F.	Significance	Test of Group Convariance Matrix Equivalence F	Significance	Confusion Matrix Prediction Percentage
Temporal	1	4.434	6	.618	3.695	.001	-
Dimension	2	1.053	2	.591	-	-	-

[a]Use of Stepwise Analysis.

[b]Significant at the .05 level.

Table F - 4. Discriminant Analysis of Shippers By Contract Experience.
(Group Hypothesis #4) (3 Groups, N = 262)

	Function	Chi-squared	D.F.	Significance	Test of Group Convariance Matrix Equivalence F	Significance	Confusion Matrix Prediction Percentage
Personal	1	8.615	6	.005[a b]	1.846	.036	55%
Environment	2	.187	2	.675	-	-	-
Organizational	1	13.167	12	.357	1.564	.011	-
Environment	2	3.125	5	.681	-	-	-
Negotiation	1	8.490	12	.746	1.123	.270	-
Potential	2	3.409	5	.637	-	-	-
Negotiation	1	9.238	8	.323	5.155	.000	-
Preparation	2	1.307	3	.927	-	-	-
Negotiation	1	10.099	8	.258	.881	.613	-
Interaction	2	1.999	3	.573	-	-	-
Negotiation	1	6.830	6	.337	13.846	.001	-
Outcome	2	.637	2	.727	-	-	-

Table F - 4. (Continued)

	Function	Chi-squared	D.F.	Significance	Test of Group Convariance Matrix Equivalence F	Significance	Confusion Matrix Prediction Percentage
Temporal Dimension	1	8.144	2	.017[a b]	2.161	.116	55%

[a]Use of Stepwise Analysis.

[b]Significant at the .05 level.

Table F - 5. Discriminant Analysis of Shippers by Industry.
(Group Hypothesis #5) (22 Groups, N = 262)

	Function	Chi-squared	D.F.	Significance	Test of Group Convariance Matrix Equivalence F	Significance	Confusion Matrix Prediction Percentage
	1	139.480	147	.658	2.002	.001	-
	2	92.652	120	.969	-	-	
Personal	3	64.483	95	.993	-	-	-
Environment	4	43.328	72	.997	-	-	-
	5	27.872	51	.986	-	-	-
	6	14.533	32	.996	-	-	-
	7	5.074	15	.991	-	-	-
	1	105.240	120	.829	2.022	.001	-
	2	64.587	95	.992	-	-	-
Organizational	3	36.898	72	.999	-	-	-
Environment	4	18.203	51	1.000	-	-	-
	5	7.773	32	1.000	-	-	-
	6	2.490	15	.999	-	-	-
Negotiation	1	108.450	84	.038[a b]	1.924	.001	12%
	2	60.304	60	.465	-	-	-
Potential	3	30.409	38	.805	-	-	-
	4	11.799	18	.857	-	-	-

Table F - 5. (Continued)

	Function	Chi-squared	D.F.	Significance	Test of Group Convariance Matrix Equivalence F	Significance	Confusion Matrix Prediction Percentage
	1	127.570	80	.001[b]	3.444	.001	24%
Negotiation	2	35.347	57	.989	-	-	-
Preparation	3	14.885	36	.999	-	-	-
	4	6.166	17	.992	-	-	-
	1	72.900	80	.700	1.607	.001	-
Negotiation	2	39.945	57	.958	-	-	-
Interaction	3	20.265	36	.984	-	-	-
	4	9.966	17	.905	-	-	-
Negotiation	1	193.770	54	.000[b]	4.106	.001	25%
Outcome	2	16.523	34	.994	-	-	-
	3	4.220	16	.998	-	-	-
Temporal	1	45.505	60	.917	3.127	.001	-
Dimension	2	24.840	38	.950	-	-	-
	3	7.234	18	.988	-	-	-

[a]Use of Stepwise Analysis.

[b]Significant of the .01 level.

Table F - 6. Discriminant Analysis of Motor Carriers by Industry.
(Group Hypothesis #6) (8 Groups, N = 104)

	Function	Chi-squared	D.F.	Significance	Tests of Group Convariance Matrix Equivalence F	Signifiance	Confusion Matrix Prediction Percentage
	1	46.878	49	.559	2.708	.001	-
	2	25.463	36	.904	-	-	-
Personal	3	15.069	25	.939	-	-	-
Environment	4	7.822	16	.954	-	-	-
	5	3.309	9	.950	-	-	-
	6	1.336	4	.855	-	-	-
	7	.191-01	1	.890	-	-	-
	1	43.978	42	.387	3.354	.001	-
	2	22.723	30	.826	-	-	-
Organizational	3	8.704	20	.986	-	-	-
Environment	4	3.085	12	.994	-	-	-
	5	.397	6	.998	-	-	-
	6	.596-01	2	.970	-	-	-
	1	42.008	42	.470	3.623	.001	-
	2	24.514	30	.738	-	-	-
Negotiation	3	12.333	20	.904	-	-	-
Potential	4	3.228	12	.993	-	-	-
	5	1.531	6	.957	-	-	-
	6	.117	2	.943	-	-	-

Table F - 6. (Continued)

	Function	Chi-squared	D.F.	Significance	Test of Group Convariance Matrix Equivalence F	Significance	Confusion Matrix Prediction Percentage
Negotiation Preparation	1	25.424	28	.605	3.872	.001	-
	2	12.292	18	.832	-	-	-
	3	4.474	10	.923	-	-	-
	4	1.590	4	.811	-	-	-
Negotiation Interation	1	27.460	28	.493	2.330	.001	-
	2	10.530	18	.913	-	-	-
	3	4.842	10	.901	-	-	-
	4	.693	4	.952	-	-	-
Negotiation Outcome	1	19.429	21	.557	13.754	.001	-
	2	5.301	12	.947	-	-	-
	3	1.317	5	.933	-	-	-
Temporal Dimension	1	9.719	18	.940	3.615	.001	-
	2	13.292	10	.973	-	-	-
	3	1.093	4	.895	-	-	-

Table F - 7. Discriminant Analysis of Shippers by the use of a Bid Process. (Group Hypothesis #7) (2 Groups, N = 262)

	Function	Chi-squared	D.F.	Significance	Tests of Group Convariance Matrix Equivalence F	Tests of Group Convariance Matrix Equivalence Significance	Confusion Matrix Prediction Percentage
Personal Environment	1	4.504	7	.720	1.287	.141	-
Organizational Environment	1	8.771	6	.186	2.104	.002	-
Negotiation Potential	1	8.889	2	.011[a b]	1.261	.285	62%
Negotiation Preparation	1	17.262	4	.002[b]	24.944	.001	61%
Negotiation Interaction	1	8.116	2	.017[a b]	.498	.683	65%
Negotiation Outcome	1	4.036	3	.257	22.866	.001	-
Temporal Dimension	1	3.014	3	.389	2.039	.056	-

[a]Use of Stepwise Analysis.

[b]Significant at the .05 level.

Table F - 8. Discriminant Analysis of Motor Carriers by the use of a bid Process. (Group Hypothesis #8) (2 Groups, N = 104)

	Function	Chi-squared	D.F.	Significance	Test of Group Convariance Matrix Equivalence F	Significance	Confusion Matrix Prediction Percentage
Personal Environment	1	.999	7	.660	1.209	.207	-
Organizational Environment	1	7.891	6	.246	.954	.518	-
Negotiation Potential	1	17.798	6	.253	.962	.507	-
Negotiation Preparation	1	8.666	4	.070	13.572	.001	-
Negotiation Interaction	1	2.151	4	.708	.845	.584	-
Negotiation Outcome	1	1.184	3	.756	9.692	.001	-
Temporal Dimension	1	4.227	3	.237	3.700	.001	-

Table F - 9. Discriminant Analysis of Motor Carriers by Truckload and Less-than-Truckload. (Group Hypothesis #9) (3 Groups, N = 104)

	Function	Chi-squared	D.F.	Significance	Test of Group Convariance Matrix Equivalence F	Significance	Confusion Matrix Prediction Percentage
Personal	1	10.305	14	.740	1.783	.008	-
Environment	2	.532	6	.997	-	--	-
Organizational	1	14.408	12	.275	1.620	.007	-
Environment	2	5.445	5	.364	-	-	-
Negotiation Potential	1	13.035	2	.001[a b]	.80045-02	.992	62%
Negotiation	1	9.093	8	.335	2.581	.001	-
Preparation	2	2.042	3	.564	-	-	-
Negotiation	1	9.278	2	.010[a b]	2.284	.102	70%
Interaction	-	-	-	-	-	-	-
Negotiation	1	4.753	6	.575	-	-	-
Outcome	2	.147	2	.929	8.803	.001	-

Table F-9. (Continued)

	Function	Chi-squared	D.F.	Significance	Test of Group Convariance Matrix Equivalence F	Significance	Confusion Matrix Prediction Percentage
Temporal	1	5.026	6	.540	2.704	.001	-
Dimension	2	.327	2	.849	-	-	-

[a]Use of Stepwise Analysis.

[b]Significant at the .05 level.

Table F - 10. Discriminant Analysis of Shippers by Truckload and Less-than-Truckload Shipments. (Group Hypothesis #10) (3 Groups, N = 262)

	Function	Chi-squared	D.F.	Significance	Test of Group Convariance Matrix Equilvalence F	Test of Group Convariance Matrix Equilvalence Significance	Confusion Matrix Prediction Percentage
Personal	1	9.811	14	.775	1.192	.155	-
Environment	2	2.593	6	.857	-	-	-
Organizational	1	22.525	12	.032[a]	1.060	.366	57%
Environment	2	5.683	5	.338	-	-	-
Negotiation	1	20.600	12	.056[a]	.949	.565	53%
Potential	2	5.434	5	.365	-	-	-
Negotiation	1	5.047	8	.753	-	-	-
Preparation	2	1.821	3	.610	5.840	.232	-
Negotiation	1	6.372	8	.606	-	-	-
Interaction	2	1.453	3	.693	1.213	.232	-
Negotiation	1	13.022	6	.042[a]	12.179	.001	.59%
Outcome	2	.557	2	.756	-	-	-

Table F - 10. (Continued)

	Function	Chi-squared	D.F.	Significance	Test of Group Convariance Matrix Equilvalence F	Significance	Confusion Matrix Prediction Percentage
Temporal	1	3.700	6	.717	5.069	.001	-
Dimension	2	.972	2	.615	-	-	-

[a]Significant at the 05. level.

Table F - 11. Discriminant Analysis of Participants by Shippers and Motor Carriers. (Group Hypothesis #11) (2 Groups, N = 366)

	Function	Chi-squared	D.F.	Significance	Test of Group Convariance Matrix Equivalence F	Significance	Confusion Matrix Prediction Percentage
Personal Environment	1	26.034	7	.001[a]	.972	.505	73%
Organizational Environment	1	105.87	6	.001[a]	7.289	.001	92%
Negotiation Potential	1	15.520	6	.016[a]	1.243	.203	75%
Negotiation Preparation	1	1.352	4	.853	2.955	.001	-
Negotiation Interaction	1	76.195	4	.001[a]	1.805	.054	83%
Negotiation Outcome	1	19.264	3	.001[a]	685.31	.001	72%

Table F - 11. (Continued)

	Function	Chi-squared	D.F.	Significance	Test of Group Convariance Matrix Equivalence F	Significance	Confusion Matrix Prediction Percentage
Temporal Dimension	1	5.231	3	.155	7.396	.001	-

[a]Significant at the .05 level.

APPENDIX G

REGRESSION RESULTS

Table G - 1. Test of Relationships Between Negotiation Preparation and Negotiation Interaction Using Regression Analysis.[a]

Independent Variables Included	Type of Test	R^2	F	Significant
Total Issues Prepared Total Manhours Manhours Collecting Internal Information Manhours Collecting External Information	Traditional	.425	58.522	.001[b]
	Stepwise	.424	117.317	.001[b]
Total Issues Prepared Manhours Collecting Internal Information Manhours Collecting External Information	Traditional	.424	78.040	.001[b]
	Stepwise	.424	117.317	.001[b]

[a] Negotiation Interaction is represented as the total number of issues discussed.

[b] Significant at the .05 level.

Table G - 2. Analysis of the Influence of Contact Issues on Negotiation Outcome of Motor Carriers Using Regression Analysis.

Issue	R^2	F	Significance
Commodity Characteristics	.093	1.250	.303
Volume Requirements	.054	.124	.580
Equipment Factors	.147	2.705	.099
Service Requirements	.055	.735	.572
Rate Issues	.117	1.730	.157
Payment Terms	.122	1.741	.156
Liability and Insurance Factors	.301	5.827	.001[a b]
Exclusivity	.069	.858	.496
Contract Duration	.090	5.175	.027[a b]
Confidentiality	.073	.941	.449
Personal Factors - Self	.058	.672	.615
Personal Factors - Other Party	.060	.697	.598

[a]Use of Stepwise Analysis.

[b]Significant at the 05. level.

Table G - 3. Analysis of the Influence of Contract Issues on Negotiation Outcome of Shippers Using Regression Analysis.

Issue	R^2	F	Significance
Commodity Characteristics	.030	1.142	.339
Volume Characteristics	.007	.265	.900
Equipment Factors	.022	.797	.529
Service Requirements	.020	.759	.554
Rate Issues	.013	.487	.746
Payment Terms	.030	4.442	.037[a] [b]
Liability and Insurance Factors	.029	1.056	.381
Exclusivity	.004	.150	.963
Contract Duration	.020	.723	.578
Confidentiality	.010	.351	.843
Personal Factors - Self	.068	2.379	.055[a] [b]
Personal Factors - Other	.020	.660	.621

[a] Use of Stepwise Analysis.

[b] Significant at .05 level.

VITA

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